DOCUMENT RESUME

ED 282 902 TM 870 299

TITLE Integrating Learning and Testing: A Handbook for Teachers, Grade Six. Experimental Edition. 1985 Revision.
INSTITUTION New York City Board of Education, Brooklyn, N.Y. Div. of Educational Planning and Support.
REPORT NO ISBN-88315-569-9; NYC-CURR-NO-02-6020-26
PUB DATE 85
NOTE 276p.; For related document, see TM 870 298.
AVAILABLE FROM Board of Education of the City of New York, 131 Livingston Street, Room 613, Brooklyn, NY 11201 ($8.00).
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS Curriculum Guides; Educational Objectives; *Educational Testing; Elementary School Curriculum; *Grade 6; Intermediate Grades; Language Tests; Mathematics Tests; Reading Tests; State Programs; Teaching Guides; *Test Coaching; *Testing Programs
IDENTIFIERS *Curriculum Related Testing; New York; *New York City Board of Education

ABSTRACT

This handbook was designed for use in conjunction with an ongoing program in the New York (New York) public schools to improve students' test-taking skills. Directed towards sixth grade teachers and their supervisors, this guide has been developed for implementation as an integral part of the school's ongoing instruction in communication arts and mathematics. It accompanies the grade-level curriculum outlined in the Minimum Teaching Essentials. The purposes of this handbook are to: (1) discuss testing and the testing program in New York State; (2) assist teachers and supervisors in planning and implementing an instructional test-taking program; (3) provide sample lessons that identify and explain test-taking skills, provide performance objectives, outline lesson activities, provide for follow-ups in several test formats, and provide practice tests; (4) develop students' cognitive skills, affective behavior, and reasoning strategies; and (5) enable students to understand the formats, concepts, and content of the tests they take. It is also stated that parents have a role in developing and implementing this program. Sections include: teaching the mechanics of test-taking; communication arts skills; mathematics skills; and extensive sample test items and answer keys. (GDC)

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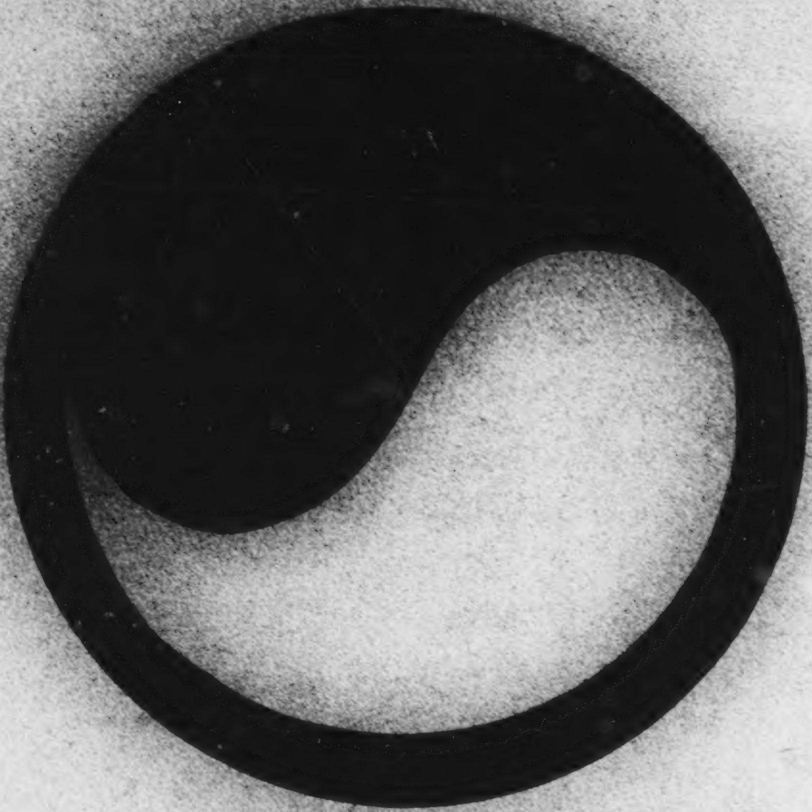
ISBN No. 88315-[illegible]

Curric. No. 02-6030-[illegible]



INTEGRATING LEARNING AND TESTING

A HANDBOOK FOR TEACHERS
GRADE SIX

EXPERIMENTAL EDITION

1985 REVISION

NEW YORK CITY BOARD OF EDUCATION

Division of Curriculum and Instruction

Office of Curriculum Development and Support

New York City Public Schools should order additional copies of this publication from the Bureau of Supplies.

ISBN No. 88315-569-9 Curric. No. 02-6020-26

Other persons and institutions may obtain copies of this publication from the Board of Education, City of New York, Publications Sales Office, 110 Livingston Street, Brooklyn, N.Y. 11201. (See current catalogue for price.)

Foreword

Integrating Learning and Testing: A Handbook for Teachers, Grade 6 has been designed to assist Grade 6 teachers and their supervisors with the task of infusing test-taking skills into the communication arts and mathematics curriculum.

Test-taking skills are not viewed in isolation but are seen as part of a total integrated instructional program that presents to students both curricular content and thinking processes needed for learning growth to occur. It has been shown that practice in test-taking situations, coupled with knowledge of the content being tested, raises the performance level of students on standardized tests.

Our hope is that this guide, used in conjunction with an ongoing staff development program, will assist students in their efforts to raise their academic achievement on standardized tests, increase their knowledge of the curriculum, and stimulate their critical thinking and reasoning skills.

Your cooperation in sharing your reactions to this guide will be helpful in planning for future revisions.

Charlotte Frank

Charlotte Frank
Executive Director
Division of Curriculum
and Instruction

Acknowledgments

This handbook, *Integrating Learning and Testing: A Handbook For Teachers, Grade 6*, was designed to assist teachers in incorporating test-taking skills into the school's instructional program. It was prepared as a project of the Division of Curriculum and Instruction, Charlotte Frank, Executive Director, through the auspices of Rosalyn Oratz, Director, Office of Promotional Policy and Special Support Projects.

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Our thanks to Stanley H. Kaplan for his suggestions and advice in the preparation of this handbook.

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Resources were provided by the Office of Testing, Ida Echevarria, Director; Division of Pupil Personnel Services, Bureau of Educational and Vocational Guidance, Priscilla Chavez-Reilly, Director; Division of Special Education, Testing/Evaluation Unit, Irene Strum, Unit Head; and Office of Bilingual Education, Assessment and Evaluation Services Unit, Yvonne Tavares-Jimenez, Director.

Additional resources were provided by Community School District 4, Carlos Medina, Community Superintendent; Community School District 6, Lloyda R. Alfalla, Community Superintendent; Community School District 22, Ralph T. Brande, Community Superintendent, Community School District 23, Carlos R. Edwards, Community Superintendent; Community School District 32, Joseph Pacheco, Community Superintendent.

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The manuscript was prepared for publication by the Editorial and Production Unit, Alaire Mitchell, Unit Head.

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Introduction

This handbook, Integrating Learning and Testing: A Handbook for Teachers, Grade 6 is designed for use in conjunction with an ongoing staff development program to improve students' test-taking skills. It is directed towards sixth grade teachers and their supervisors. The guide has been developed for implementation as an integral part of the school's ongoing instructional program in communication arts and mathematics. It focuses, therefore, on the curriculum outlined for each grade in the Minimum Teaching Essentials.

The purposes of this handbook are as follows:

1. to provide a rationale for testing, an overview of the elements of testing, and an awareness of the use of ongoing classroom assessment, and test results.

2. to assist teachers and supervisors in planning and implementing an instructional program which incorporates test-taking strategies into both communication arts (reading) and mathematics, with extensions in science and social studies.

3. to provide teachers and supervisors with sample lessons that:
   - identify and explain test-taking skills.
   - provide performance objectives for those skills.
   - outline the lessons' activities.
   - provide for follow-ups in a variety of test formats.
   - provide practice tests for the skills.

4. to develop within students the cognitive skills and affective behaviors necessary for improving achievement on all tests.

5. to develop an awareness in students of the various reasoning strategies related to the test-taking process and to enable them to apply the appropriate strategy in a testing situation.

6. to develop test wiseness in students enabling them to understand the formats, concepts, and content of the various tests they will take.

Supervisors, teachers, students, and parents all play a major and specific role in the development and implementation of a test-taking skills program:

Supervisors should:

- introduce the test-taking skills program to staff and parents.
- develop a comprehensive plan with staff and parental representation to launch a schoolwide program.
- implement ongoing staff development.
- implement program assessment, monitoring, supervision, and modification,
- implement parent workshops.

Teachers should:

- become familiar with the test-taking manual.
- participate in ongoing staff-development workshops that focus on test-taking skills.
- utilize the strategies outlined in the manual to improve students' test-taking skills.
- focus on reasoning skills to improve students' abilities to answer questions.
- infuse test experiences into all content areas as part of the ongoing assessment process.
- use effective questioning techniques that include higher level thinking.
- assess students' mastery of skills.
- provide feedback to students on test results.
- use test information to plan instructional programs.
- provide a classroom structure that is conducive to learning and testing experiences.
- set high expectations for student achievement.

Students should:

- set high educational standards for themselves.
- develop the mechanical skills needed in a testing situation (for example, time management).
- learn the content skills being taught in communication arts, mathematics, science, and social studies.
- be familiar with various test formats.
- develop a positive attitude towards the testing experience.
- keep a record of their own progress in all curriculum areas, under the teacher's direction.

Parents should:

- become knowledgeable about the school's testing program.
- understand the meaning of their children's test scores.
- understand how test scores are utilized in a school and in a classroom.
- help develop positive attitudes in their children towards test-taking.
- set high expectations for their childrens' academic achievement.

An effective plan to improve student test-taking skills requires a comprehensive program within which supervisors, teachers, students, and parents all play an important role. The success of such a program is dependent upon its implementation throughout the school year within all areas of the school's instructional program.

The strategies for improving the test-taking skills which are identified and exemplified in the following pages of this manual go beyond mere "test preparation." They include the teaching and practice of critical thinking and reasoning skills which will ultimately make students better learners.

These strategies are presented as samples of the kinds of activities which all teachers can infuse into their daily lessons. They are effective for all students (general education, special education, bilingual) in developing those understandings and skills which will ultimately improve achievement in all subjects as well as in the total testing experience.

How To Use This Book

Review this entire handbook carefully before using the lessons, strategies, and practice tests with your classes to infuse these materials into the daily instructional program.

We suggest that you familiarize yourself with the following sections:

- "Elements of Assessment" is designed to provide an overview of aspects of various city and state tests which students must take.

- "Students with Special Needs" highlights the concerns which educators must consider to assist limited English proficiency and special education students in coping with the variety of tests they must take.

- "Affective Features of Test-Taking Skills" focuses on the attitudes which students bring to the testing situation. Included in this section are strategies to reduce students' anxiety and to instill confidence.

The sections on test-taking skills have been divided into three parts:

- skills related to the mechanics of test-taking (pacing, following directions, etc.)
- skills related to communication arts (reading)
- skills related to mathematics

The lessons and strategies in these sections are based on the assumption that students have already mastered a particular reading or mathematics skill before they are taught a test-taking strategy which relates to that skill.

The focus of this manual, therefore, is to help students use the skills they have already mastered to learn other skills and strategies to cope with specific types of test questions.

If you determine that a particular reading or mathematics skill has not been mastered by the class, you should teach that skill before using the appropriate test-taking skill lesson.

The practice tests and worksheets found in this handbook are teacher-developed and, therefore, have not been normed. They will, however, serve very well as practice for a particular set of test-taking skills. When administering these tests, be sure to follow the directions at the beginning of the tests carefully. After scoring the test, be sure to follow the ongoing assessment procedures described below.

Both the worksheets and the tests employ different answer formats (fill-in, circling the answer, using an answer sheet) to ensure that students are familiar with a variety of types of tests. In the communication arts section, these tests have been placed after the appropriate lesson. In the mathematics section, tests may be found after the series of lessons.

Throughout the communication arts lessons in this handbook, teachers are encouraged to probe students' responses. The probe is a strategy used to enhance students' reasoning and comprehension skills by requiring them to analyze the underlying strategies the students used in getting the answer. Questions are included that probe both correct and incorrect student responses. It is our belief that students will gather new insights into the techniques of answering test questions through this process.

Throughout the handbook it is strongly recommended that you assess students' progress in mastering test-taking skills. It is only through such ongoing assessment, coupled with frequent feedback to students, that a test-taking skills program can be successful. Often, you will need to stop and reteach a skill when assessments reveal that students have not adequately mastered it.

To aid in this assessment process, Appendix D contains a matrix which identifies the type of communication arts question (main idea, sequence, etc.) which each item on Review Tests I and II is assessing. This knowledge will allow you to perform an item analysis for both individual students as well as the class as a whole. You can then plan lessons which address the students' needs as indicated by their test performances. Appendix A also includes answers to worksheets and practice test for the communication arts section. Appendix C contains additional mathematics practice tests that will aid in student assessment.

This handbook must be used as part of a planned, structured program to improve test-taking skills. It emphasizes how these skills can be used as part of the daily instructional program, while identifying and teaching the specific skills which students need to perform successfully on all tests which they take.

Elements of Assessment

New York State Tests

The State has established minimum standards of achievement in reading comprehension, writing, and mathematics that must be met in order to receive a high school diploma. The Regents Competency Testing (RCT) program was designed to assess the level of performance of students in each of these areas.

The main purpose of the RCT program is the early identification of students who are in need of remediation. The RCT program consists of two parts: Pupil Evaluation Program (PEP) administered at the end of grades 3 and 6 in reading and mathematics, and the Preliminary Competency Tests (PCT) administered in grade 8 in reading and writing. Schools are required to provide appropriate remedial programs to students who score below the specified reference point in any of these areas.

Reading. The PEP and PCT in reading consist of different levels of the Degrees of Reading Power (DRP). The DRP is a multiple-choice, standardized test designed to identify the level of performance of a student in terms of the most difficult prose text that the student can comprehend. The test consists of nonfiction prose passages on various topics with the passages arranged in order of increasing difficulty. In each passage each test item is constructed by deleting a single word from the passage and providing five single-word response options.

Mathematics. The PEP and PCT in mathematics are multiple-choice, standardized tests based on objectives in the State mathematics curriculum. The test includes understanding of basic ideas and concepts, computation, and problem solving.

New York City Tests

In New York City public schools, students in the elementary and junior high schools are tested annually with standardized tests in reading and mathematics. The tests yield both norm-referenced and criterion-referenced scores that are reported to teachers, parents, and administrators. This testing program provides results useful to both administrative and instructional decision-makers in planning and implementing educational programs for students.

Reading. New York City administers a series of norm-referenced, objective-based reading tests to all students in grades 2 through 9. A different level of the test is administered at each grade. The tests are designed to measure achievement in the skills commonly found in the curriculum. Currently the students are tested in vocabulary (same and opposite meaning, meaning of words in context) and in comprehension (literal, interpretive, and critical reading skills). In addition, in grades 2 and 3 students are tested in phonic analysis (sounds, consonant clusters and diagraphs, short and long vowels, vowel combinations, vowel diagraphs, and variant vowel sounds), and structural analysis (compound words, identifying the number of syllables in a word, contractions, root words, and affixes). The tests provide norm-referenced scores that report how a student performs relative to the norm group as well as criterion-referenced scores that report how a student performs on a specific objective or cluster of objectives.

Mathematics. New York City administers a series of norm-referenced, objective-based mathematics tests to all students in grades 2 through 9. A different level of the test is administered at each grade. The test is unique to New York City because it is customized to measure specific objectives found in the New York City mathematics curriculum. This test was customized by replacing shelf test items with new items that measure objectives in the New York City mathematics curriculum that were inadequately covered by the shelf test. About 70-75 percent of the items from the shelf test are retained in the New York City test; this permits norm-referenced scores to be generated from the shelf test national norms. The other 25 percent of the items are newly created and selected to measure the objectives not adequately covered by the original content of the shelf test. The customization process also makes possible the administration of a unique mathematics test each year.

This chart provides an overview of three types of assessment in use in our schools. Comparison may be helpful to the teacher in making decisions regarding which type of test to use for a particular purpose, as well as in deciding how to use the results.

CHARACTERISTICS OF BASIC ASSESSMENT APPROACHES

	Norm-Referenced Tests	Criterion-Referenced Tests	Teacher Observation and Tests
General Purposes	Comparison of individual performance with that of an appropriate group of age/grade peers Use for decisions on class placement, selection to selective programs, individual or group gains, and program evaluation	Determination of individual performance relative to a criterion of proficiency Useful for planning classroom or individual instruction, individual or group gains, and program evaluation	Determination of individual performance on tasks specified by the teacher Useful for planning instruction, assigning grades
Content	May or may not include objectives actually taught; objectives determined by the test developer; may be customized to measure specific instructional objectives	May or may not include objectives actually taught; objectives determined by the test developer; may be customized to measure specific instructional objectives	Usually based upon objectives taught in the particular classroom
Format	Usually paper-and-pencil multiple-choice. For early childhood/special education; often includes psycho-motor tasks	Usually paper-and-pencil multiple-choice. For early childhood/special education; often includes psycho-motor tasks	Psycho-motor, oral or written responses. More conducive to following format used in instruction
Scores	Report student's performance relative to that of the comparison group in terms of grade equivalents, percentile ranks, NCES, and/or stanines What is this student's level of performance relative to his/her peers?	Report mastery or non-mastery of an objective or a cluster of objectives How does the student or group perform on each objective or cluster of objectives? What does this student or group know or is able to do?	Report based on preferences of teacher, adapted for different purposes: criterion-referenced score -- percent correct, pass-fail; norm-referenced score -- standing in the group; record of informal/formal observations
Target Population	Appropriate age/grade group	Appropriate age/grade group	Appropriate age/grade group

Students with Special Needs

Special Education Students

Special Education students whose instruction is based on MTEs need to develop test-taking skills so that they may become "test wise." Some of the activities in this handbook may be used without adaptation in the instruction of special education students. Other activities will require changes to meet the needs of each individual student. You may apply task analysis to some activities to provide for basic skills acquisition. Others may be adapted with repetitive instruction and many rehearsals of the same activity. In these ways you can adjust the pace of lessons and activities.

It is essential to implement modifications for special-education students whose individual education plans (IEPs) require specific test modification(s). However, modifications may be utilized only when they are indicated on the IEP. Moreover, modifications must be reflected consistently in the instructional practices indicated on the IEP. Procedures for recommending that test modifications be permitted for individual students include:

- referral to the School Based Support Team/Committee on the Handicapped (SBST/COH)
- calling an Educational Planning Conference with the supervisor and parent to recommend extended time and/or test administration in a special location

Teachers of students with handicapping conditions who are mainstreamed or in self-contained classrooms should be familiar with the information in Alternative Testing Techniques for Children with Handicapping Conditions.*

Students with Limited English Proficiency

A limited English proficient student is one whose home language is other than English and whose command of the English language impedes effective participation in the educational process. In New York City, a student who scores below the 21st percentile on the Language Assessment Battery (English version) is designated as limited English proficient. These students comprise many ethnolinguistic groups and, as such, their educational experiences are as varied as the cultures they represent. In order for limited English proficient students to succeed in this educational system, they must be able to understand and function within it.

*Division of Special Education, 1982.

Although most school systems assess student achievement, the approaches differ according to their educational philosophy. In some cultures, the results of testing impact upon both the academic and social life of the student. Failure will not only limit a student's academic future, but will cause loss of status in the eyes of society. As a result, many limited English proficient students perceive testing as a threatening experience. Critically important is the development of positive student attitudes toward testing as well as knowledge of some basic concepts, including:

- purposes of tests
- test formats
- types of test questions

Thus, regardless of previous school experience, you must provide the student with a clear understanding of the role of testing within this educational system.

Because oral examinations are common in certain countries, students may not be accustomed to reading and following written directions. Besides knowing the purpose of directions, they must be able to analyze the tasks which are required to answer test items correctly. For example:

> Directions: As you read each paragraph, decide how the speaker felt. Then choose the word that best describes that feeling. Circle the letter of your choice.

To follow these directions, the students must be able to:

1. Read the paragraph.
2. Identify the speaker's feelings.
3. Read the options and choose the appropriate word.
4. Circle the letter.

An important part of acquainting students with testing procedures is to provide information on test formats. In essence, the student should know how a booklet is organized. Familiarity with the terminology of the most common types of test directions and exposure to the various methods of marking answers (using an answer document, darkening bubbles, circling letters, etc.) is key. Many tests are composed of sections or subtests requiring the student to make the transition from one set of directions to another. This may also demand a change in strategy and in the methods used for recording answers. Students should know that sample items are representative of the items which follow. The importance, then, of fully understanding what to do in the sample items must be emphasized.

Never assume that limited English proficient students are familiar with the types of test items commonly found on standardized or teacher-made tests. In Asian cultures, for example, students are required to memorize content, and testing involves the reproduction of this content verbatim. As a result, these students are not familiar with questions which test comprehension or inference, since these items require interpretations from the text. Some may have limited or no experience with multiple choice, completion, or matching items. There is need for extensive instruction on answering these types of questions.

In some cultures, guessing is not an acceptable strategy because of the risk of losing face before others. It is important to assist students to understand their own attitudes and guide them in adapting the use of these new test strategies.

Before beginning to learn the skills outlined in this handbook, you must ensure that limited English proficient students acquire the confidence to approach tests without undue fear.

Material in this section from Office of Bilingual Education, Assessment and Evaluation Services Unit.

Affective Features of a Test-taking Skills Program

This section of the handbook addresses the feelings and attitudes of students as they prepare for and participate in a school's ongoing assessment program. It is based on the assumption that students who feel good about themselves, understand the role of tests, and are comfortable with their responsibilities in testing situations will demonstrate improved performance on tests.

Characteristics of Child Development--Ages 10-12

Although each level of the child's development is characteristic of an age group, not all children reach the same point of maturity at precisely the same time. Achievement of maturity is uneven, depending upon the individual and the specific rate of progress in all areas of development.

Ten-Year Olds. As a result of rapid and uneven growth, awkwardness and restlessness are common in this age group. Girls are more mature physically than boys the same age. Secondary sex characteristics begin to develop and approximately half the permanent teeth are developed. Muscle coordination is heightened.

The ten-year-old is generally easy going, cries very seldom, but anger may be immediate and violent. The ten-year-old has a real sense of humor and leans toward practical jokes. He or she is able to discuss problems and see different sides of questions and thus exercises greater objectivity in judgment. Much of the child's learning comes from association with peers. Eager for group approval and belonging, the child is more accepting of self and others.

The ten-year-old has developed fundamental skills and begins to develop a greater understanding of space and time. He or she may have greater capacity to accept criticism and to evaluate the self.

Eleven- and Twelve-Year-Olds. Wide variations in physical maturity occur. Girls are about two years ahead of boys in beginning the adolescent cycle of growth: they tend to reach physiological maturity earlier and to be larger and stronger than boys of the same age.

A child in this age group may show awkwardness in movement because of rapid muscular and skeletal growth. The child may tire easily because of marked physical changes. Team spirit is strong; the child may enjoy vigorous games. Restless and eager for activity, the child is outgoing and boisterous. The child at this age quarrels and makes up readily, responds to anger frequently and violently, physically and verbally. As puberty approaches, the child may want to be alone and may show the beginnings of shyness. The child may have fears, but may not admit them. The child is critical of adults, yet tends to act politely, factually, seriously, honestly, and confidingly with them.

Implications for Test-Taking Situations

For some children a testing situation is an anxiety-provoking experience. To reduce stress and anxiety, help students see that test-taking is part of the ongoing self-assessment process. Through various classroom activities and techniques, train students to be objective in evaluating their strengths and weaknesses, to develop a greater desire for self-improvement, and to become more realistic in decision-making. Enable children to understand that tests serve as one tool for assessing strengths and weaknesses and that such assessment is useful in planning for improving their skills and their educational program.

To help children obtain the most benefit from their school experience, be aware of their emotional as well as their physical needs. The child must feel that he or she belongs, is accepted, can be himself or herself, will get a fair chance, and that someone will listen. During test-taking, provide a climate in which children are not exposed to unnecessary interruptions and noises. Before the test, relaxation exercises, such as deep breathing, can put children at ease. Timing is important, since students may feel overly excited after a gym period or be less alert at certain hours of the day. Use pre- and posttest class discussion to familiarize students with the testing process. Children thrive on approval and wither under criticism. They should be praised for effort as well as performance, keeping in mind that any praise has to be sincere. Trying hard shows responsibility, even if the results are not perfect. Emphasis should be given to strengths and the development of specific strategies for overcoming weaknesses.

In essence, you should create a trusting and success-oriented environment throughout the school day. To achieve improved performance, students should:

- develop positive self-images as learners, risk takers, and test takers
- be aware that the role of a test is to measure students' subject matter strengths and weaknessess
- develop a sense of responsibility for setting realistic goals for their own self-improvement

The following strategies can assist in achieving these objectives.

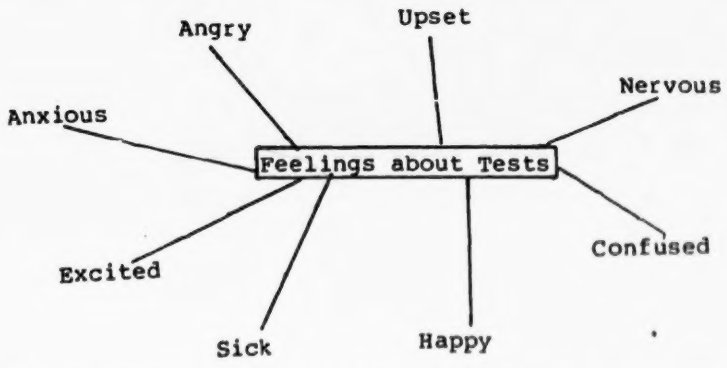
Strategies

Help students develop positive self-images as test-takers by leading the class in a discussion of their perceptions and feelings about taking a test.

- Have students brainstorm to develop a list of feelings they have about testing. Use semantic mapping or webbing techniques.

- Ask:

  - What words come to mind which describe your feelings about taking a test?



- Use follow-up questions to broaden the map and extend discussion after the map is completed.

- Use the following open-ended sentences as a basis for discussion or as a writing assignment followed by discussion:

  A test is like a __________.
  When I take a test I feel __________.
  When I'm prepared for a test I'm ___________.

  Elicit responses and discuss reasons for each response by asking, "Why do you feel this way?"

- Assist students in dealing with and changing negative attitudes about testing. For example, ask students to tell about a task they hate to do. After a negative statement, ask students to make a positive comment about the same task:

  Negative: I don't like to clean my room.
  Positive: When I clean my room, it is easier to find the things I need.

  Negative: I'm not happy when I take a test.
  Positive: After I take a test, I can't wait to see if I got a high mark.

- Emphasize success by asking students to answer the question "What have I learned today?" For example, after completing an activity, have a student state two goals accomplished by the activity. This will focus students' thinking on the task and emphasize success. Stress that each student has improved, or learned something. Provide positive feedback.

- Help students develop techniques for controlling anxiety and lessening stress. Emphasize that negative feelings toward a task usually increase anxiety, which in turn affects performance. Explain that by listening to and sharing feelings about testing, students will reduce their own anxiety. For example, lead students in a discussion of the stressful feelings they have about a test. Allow for interaction among students, and serve as a facilitor of the discussion.

- Provide opportunities for roleplaying on topics such as preparing for a test: For example:

  Setting 1: a parent and student the evening before the test
  Setting 2: a parent and student the morning of the test

Teaching the Mechanics of Test-taking

INTRODUCTION

In order for students to take tests well and develop a sense of "test-wiseness," they need to understand the subject matter being tested and also be skilled in the "how to" of test taking. Students may not perform on a test as well as they should because of problems related to the actual taking of a test. Classroom emphasis on teaching these "how to" mechanics will help to strengthen these skills.

This section of the handbook addresses the "how to" skills of test-taking. For each skill:

- a performance objective is stated
- the skill is explained
- strategies for teaching the skill are identified
- examples are given to illustrate the strategy

Use these techniques as often as possible (for example, in classroom management, play activities, etc.), and relate them to lessons in communication arts, mathematics, social studies, and science, as well as other subject areas.

The following "how to" skills are included in this section:

Skill 1: Following test directions
Skill 2: Skimming and scanning
Skill 3: Using time effectively
Skill 4: Using an answer sheet

Skill 1: Following test directions

PERFORMANCE OBJECTIVE: Students will be able to:

follow oral and written directions separately and simultaneously

EXPLANATION: To follow test directions, students must:

(1) be familiar with test vocabulary
(2) listen carefully
(3) read and understand test directions
(4) listen to and read directions at the same time

STRATEGIES:

NOTE: Teach and reinforce listening and auditory discrimination skills before and during the following strategies.

- Introduce the vocabulary that students will encounter on tests, for example: STOP, GO ON, opposite, same, choose, locate, identify, read, paragraph, underline. Elicit and discuss the meaning of each word. Include this vocabulary in classroom activities in mathematics, communication arts, social studies, and science.

- Give class assignments with oral directions that include the test vocabulary listed above. Use simple, complete sentences, and do not repeat directions. For example, say:

  - Open your books to page 35. Read the title and the first two paragraphs.
  - Locate the vocabulary word ___________.
  - In which paragraph does ___________ appear?

  Before students begin the assignment, check their understanding. Gradually increase the complexity of the directions.

- To provide students with practice in reading and following written directions, give class assignments with written directions only. Do not provide any oral directions.

- Distribute Mechanics Worksheet 1A. Have students read and follow the directions. Discuss the strategies they used to follow the directions.

- Give students practice using key words that appear frequently in test directions to complete the personal information section of a test answer sheet. For example, distribute Mechanics Worksheet 1B, and say:

  - Locate the words "Last Name" on the answer sheet. Start at the left of the row of boxes under the words "Last Name." Print one letter of your last name in each box. Locate the double lines separating the sections "Last Name" and "First Name." Start at the first box next to the double lines. Print one letter of your first name in each box.
  - On your answer sheet locate the section called "Date of Birth." Fill in the abbreviation of the month of your birth. Fill in the numbers for your date and year of birth.

- On classroom assignments and teacher-made tests give students practice adjusting to different kinds of test instructions, often within the same section or exercise. Provide both oral and written directions. For example:

  - For items 1-5, choose the word that means the same or about the same as the underlined word. For items 6-10, choose the word that means the opposite of the underlined word.

- Assess student mastery. Reteach and reinforce these skills as necessary.

Mechanics Skill 1: Following Test Directions

Use the bottom of this sheet of paper to follow the directions below.

Directions

1. Write the following sentence across the center of the answer space:

   NEVER TRUST A SMILING CAT

2. Cross out the second, third, and fifth words.
3. Cross out all the N's and L's.
4. Change the M to N. Cross out the R.
5. Put LO in place of the first E.
6. Change the two I's to two O's.
7. Change the G to P. Add a Y after P.
8. Write the letters that are left. Leave a blank space between the E and the S.

Exercise from Joanne Carlisle, *Reasoning and Reading*, Level 1 (Cambridge, MA: Educators Publishing, 1982), p. 33.

MECHANICS WORKSHEET 1B

Mechanics Skill 1: Following Test Directions

LAST NAME											FIRST NAME						MI
○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
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Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ	Ⓜ
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Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ	Ⓦ
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NYC STUDENT I.D. NUMBER								
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①	①	①	①	①	①	①	①	①
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③	③	③	③	③	③	③	③	③
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⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨	⑨

DATE OF BIRTH					
MONTH		DAY		YEAR	
JAN	JUL	⓪	⓪		⓪
FEB	AUG	①	①		①
MAR	SEP	②	②		②
APR	OCT	③	③		③
MAY	NOV		④		④
JUN	DEC		⑤		⑤
			⑥	⑥	⑥
			⑦	⑦	⑦
			⑧		⑧
			⑨		⑨

SEX

○ MALE

○ FEMALE

GRADE	
Ⓚ	⑦
①	⑧
②	⑨
③	⑩
④	⑪
⑤	⑫
⑥	

Skill 2: Skimming and scanning

PERFORMANCE OBJECTIVE: Students will be able to:

skim and scan a passage to locate test answers quickly

EXPLANATION: to skim and scan a passage to locate test answers, students must:

(1) adjust reading strategies, purposes, and rates of reading
(2) search passages for significant details

STRATEGIES:

- Introduce or elicit the words skim and scan, teach the meaning for each, and elicit situations in which the skills should be used (for example, reading a newspaper, taking a test, searching for information in a textbook). Point out that:

  - Skimming is fast reading. It is used to get general information about a passage or test material quickly.
  - Scanning is also fast reading. It is used to locate specific facts or details quickly.

  Be sure students understand that skimming and scanning should be used after the entire passage or problem has been read.

- Teach students the following strategies for skimming:

  1. Read the question to decide what information to look for.
  2. Make a decision whether to skim or scan.
  3. Locate the key sentences or phrases that provide the answer.
  4. Select the appropriate answer.

- Provide opportunities for students to practice skimming. For example, use the following passage from Communication Arts Test 2 (main idea):

Directions: Read the following paragraph. Darken the oval next to the main idea.

Helicopters are excellent in rescue work. They can pick a man out of the sea, off a ship, or off a tall mountain peak. Another use of the helicopter is to carry passengers from the roof tops of city buildings to airports, thus avoiding traffic. They carry supplies to places having no landing fields or roads. Power companies use helicopters to inspect long power lines in wilderness areas.

What is this passage mainly about?

○ a. helicopters can carry supplies
○ b. helicopters have many uses
○ c. helicopters help tell us about the best route to work
○ d. the Army uses helicopters

- Lead students through the following steps in order to demonstrate how to use skimming as a strategy to find the correct answer to the test question.

  1. The question asks for the main idea.
  2. To find the main idea you must skim for the key sentences or phrases:

     Helicopters are excellent in rescue work.
     Another use of the helicopter is to carry passengers...They carry supplies to places.
  3. The correct answer is b, helicopters have many uses.

- Teach students the following strategies for scanning:

  1. Read the question to decide what information to look for.
  2. Make a decision whether to skim or scan.
  3. Look for key word (names, numbers) related to the question.
  4. Select the appropriate answer.

- Provide opportunities for students to practice scanning. For example, use the following passage and questions from Communication Arts Worksheet 1B (answering who, what, when, where and why at the literal level):

Directions: Read the passage. Read the question that follows and darken the oval next to the correct answer.

As in any sport, basketball has its stars and memorable moments. For those in attendance, it was an unforgettable night in March 1962 when the Philadelphia Warriors played the New York Knickerbockers in Hershey, Pennsylvania. The fans admired Wilt Chamberlain because he had broken all scoring records. But Chamberlain broke his own record that night. When the game ended, the Warriors had won 169-147. Wilt Chamberlain had scored 100 points in the game!

Where did the Warriors and the Knickerbockers play?

○a. Philadelphia
○b. New York
○c. Warrensville
○d. Hershey

- Lead students through the following steps to demonstrate how scanning can be used to find the correct answers to test questions.

  1. The question asks where the game took place.
  2. The question requires that you scan.
  3. The key words are Hershey, Pennsylvania.
  4. The correct answer is d, Hershey.

- Provide students with numerous opportunities to use skimming and scanning skills as part of their instructional day in mathematics, science, and social studies lessons. Use practice tests (provided in this handbook) and other testing materials to provide opportunities for additional practice.

- Assess student mastery. Reteach and reinforce these skills as necessary.

REINFORCEMENT ACTIVITIES:

COMMUNICATION ARTS

- Use tables of contents and indexes in students' books for practice exercises in skimming and scanning.

- Have students skim and scan television guides, newspaper and magazine articles, and telephone books for homework assignments and follow-up activities.

- Use literature assignments as opportunities for students to skim and scan for main ideas, information about characters, plot details, and figurative language.

- Teach methods of organization that assist the reader in finding information quickly. For example, numerical order, alphabetical order, and classification by topic.

SCIENCE

- Use newspaper weather maps for practice in scanning. For example, ask:
  - Which city in the United States recorded the highest temperature at noon yesterday?
- Have students skim science passages to find their topics.
- Have students scan science experiments for specific details. For example, ask:
  - In step 5, how many grams of NaCl do you add?

SOCIAL STUDIES

- Have students scan for details in a paragraph, on a page, or in a chapter.
- Have students practice scanning during end-of-unit open book tests.
- Use social studies textbooks for practice in skimming. For example, say:
  - You have three minutes to read page 18 and find out what it is mainly about.

  Alternatively, write the following on chart paper:

  Page 18 is mainly about:

  a. early explorers
  b. Christopher Columbus
  c. explorers
  d. early explorers of the Americas

  Discuss students' choices, helping them that some are too broad, others too narrow, and one "just right."
- Relate skimming and scanning to pacing and time management by giving time limits for skimming and scanning exercises. For example, say:
  - You have five minutes to scan this passage and answer the questions that follow.

MATHEMATICS

- Use newspaper charts and graphs for practice in scanning.
- Skim and scan for percentage of interest in bank advertisements.
- Scan mathematics texts for specific formulas.

Skill 3: Using time effectively

PERFORMANCE OBJECTIVE: Students will be able to:

manage time effectively on a test

EXPLANATION: To manage time effectively on a test, students must:

(1) figure out how much time is available to complete each answer
(2) work at an appropriate pace, yet remain relaxed

STRATEGIES:

NOTE: Reinforce test-taking strategies in all classroom testing situations.

PART 1

. Use time-oriented problems that students must use mathematical skills to solve. For example:

1. John has to answer 10 questions in 20 minutes. How much time can he spend on each question?

2. If Marion took 3 minutes each to answer 15 questions, how long did it take her to finish the test?

. Teach students how to use the clock to pace their time on a test. For example:

1. If a test starts at 9:50 A.M. and you have 35 minutes to complete Part I, at what time will Part I be over?

Start	Stop
9:50 A.M.	? A.M.

2. If one part of a test started at 9:40 A.M. and was completed at 10:05 A.M., how many minutes did you have to complete that part of the test?

PART 2

. Write the following strategies on chart paper and discuss them with students:

- Listen to and/or read all directions.
- Be sure you ask a question about things you don't understand before the test begins.
- Look ahead to find out how much you have to complete in the time alloted for the test.

- First answer all the questions you know.
- Skip questions only if you think you cannot answer them. Come back to them later when you have finished the rest of the test
- Be sure that you put your answers in the correct space on the answer sheet.
- Use all the time allowed to check your answers for accuracy. Check for missed answers on the answer sheet.

Assess student mastery. Reteach and reinforce as necessary.

Skill 4: Using an answer sheet

PERFORMANCE OBJECTIVE: Students will be able to:

use an answer sheet correctly

EXPLANATION: To use an answer sheet, students must:

(1) know what information is requested on the answer sheet
(2) understand the format of the answer sheet
(3) mark answers correctly on the answer sheet

STRATEGIES: Have students practice as often as possible with sample answer sheets:

- Teach as sight words those words that routinely appear on answer sheets, for example: name, school, class, date, teacher's name, M.I. (middle initial), item, sample.

- Use Mechanics Worksheet 1A, sample answer sheet, to familiarize students with the location of different sections. Employ commonly used testing vocabulary. For example:

  - Turn your answer sheet so the words "Last Name" are at the top of the sheet.

  - Locate the first box on the left under "Last Name." Print one letter of your last name in each box.

  - Locate the first box to the right of the double line under "First Name." Print one letter of your first name in each box.

- Emphasize that each answer must be marked in its proper place on the answer sheet. Demonstrate how a misplaced answer affects those that follow.

- Use different kinds of answer sheets during regular classroom testing situations. For example, during end-of-unit tests, have students record their answers on Mechanics Worksheet 4 which has a different format from the answer sheet in the appendix.

- Provide opportunities to incorporate practice in following directions with completing the answer sheet. (See Mechanics Lesson 1: Following Test Directions.)

Communication Arts Skills

Skill 1: Answering who, what, when, where, and why questions at the literal level

PERFORMANCE OBJECTIVE: Students will be able to:

answer detail questions about a test passage

EXPLANATION: to answer detail questions, students must be able to:

(1) use question words to determine the kind of answer required
(2) identify story details
(3) use story details to answer test questions

DEVELOPMENT:

ACTIVITY 1

. Write these headings on chart paper:

Who	What	When	Where	Why

. Ask:

- Which television show, movie, or music video is your favorite?

. For each student who responds, ask:

- Who is the main character?
- What does the character do?
- When does the story occur? (time)
- Where does the story take place? (location)
- Why is the main character important?

. Write students' responses on the chart.

. Ask:

- What do we call the answers on this chart? (details)
- What do details in a story tell us?

ACTIVITY 2

. Distribute Communication Arts Worksheet 1A, and have students read the first paragraph.

. Elicit the details that describe who, what, when, where, and why, and add them to the chart started in activity 1. For example:

Who	What	When	Where	Why
	blizzard	Jan. 20	Western states	

- Probe:

  - Is this answer in the correct column? Why? Wny not?

- Have students read the rest of the article, and ask the following questions, adding the responses to the chart:

  - Who was affected by the blizzard?
  - What was some of the damage done by the blizzard?
  - When did the blizzard begin?
  - Where did the winds reach 95 miles an hour?
  - Who requested immediate aid from the Sixth Army?
  - Why did the senator request aid?

- Probe:

  - Which details in the article led you to that answer?
  - Is that answer the kind of detail asked for by the question?
  - What words in the question helped you find the answer?

ACTIVITY 3

- Write the following headings on chart paper: "Question Words" and "Kinds of Answers."

- Say:

  - Look at the first chart we completed.
  - Based on that chart, what kinds of answers should you look for to answer a "who" question?

- As answers are elicited, complete a chart. Repeat for "what," "when," "where," and "why":

Details

Question Words	Kinds of Answers
who, what, which	a person, thing, idea, or action
when	a time
where	a place
why, how	a reason or explanation

FOLLOW-UP:

- Distribute Communication Arts Worksheet 1B, and follow the directions in the box at the top of the page.

- After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST:

- Distribute and administer Communication Arts Test 1. Follow the testing procedure outlined in the section of this guide called "How to Use This Book."

COMMUNICATION ARTS WORKSHEET 2A

Skill 1: Answering Who, What, When, and Why Questions at the Literal Level

Blizzard Hits Western States

CHICAGO, Jan. 20--One of the worst storms in memory hit Montana, eastern Washington, Utah, Nevada, Wyoming, Colorado and the Dakotas today in the form of blizzards, floods and bitter Arctic cold.

Some areas were buried under as much as 80 inches of snow, which forced the closing of schools and blocked highways. Freezing winds blew roofs off buildings, smashed windows and ripped down power and telephone lines. Brief gusts of the blizzard winds reached speeds as high as 95 miles an hour in parts of Montana and the Dakotas.

Many families and thousands of farm animals were reported marooned by snow-blocked roads.

Senator Arthur V. Watkins of Utah urged the Commanding General of the Sixth Army at San Francisco to send immediate aid to combat winter conditions that were "endangering human life and livestock and game."

The cold wave, moving down from Canada, sent the temperature plunging to 36 degrees below zero at Frazer, Colorado, while Big Piney, Wyoming, registered 34 below.

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COMMUNICATION ARTS WORKSHEET 1B

Skill 1: Answering Who, What, When, and Why Questions at the Literal Level

Directions: Read the stories carefully. Then read the questions below each story. Find the best answer to each question. Darken the oval in front of the correct answer.

As in any sport, basketball has its stars and memorable moments. For those in attendance, it was an unforgettable night in March 1962 when the Philadelphia Warriors played the New York Knickerbockers in Hershey, Pennsylvania. The fans admired Wilt Chamberlain because he had broken all scoring records. But Chamberlain broke his own record that night. When the game ended, the Warriors had won 169-147. Wilt Chamberlain had scored 100 points in the game!

1. Where did the Warriors and the Knickerbockers play?

○ a. Philadelphia
○ b. New York
○ c. Warrensville
○ d. Hershey

2. Why did the fans think Wilt was great?

○ a. he had broken all scoring records
○ b. he played for the New York Knickerbockers
○ c. he was tall
○ d. he was a good loser

Communication Arts Worksheet 1B: page 2 of 2

Skill 1 continued

Another night to remember was in January 1974. The fans in South Bend, Indiana, cheered wildly as the Fighting Irish of Notre Dame University played against the Bruins of the University of California at Los Angeles. The Bruins had won eighty-eight games in a row. They held the greatest winning record in college basketball history. Could Notre Dame beat them? With less than a minute to play, the Bruins led 70-69. Then Notre Dame's Dwight Clay got the ball. He made a basket and put his team in the lead. The game ended with Notre Dame winning by one point, 71-70. The Fighting Irish had broken the Bruins' long winning streak.

3. What college basketball record did the University of California at Los Angeles hold?

   ○ a. most points scored in a game
   ○ b. most minutes played
   ○ c. most one-point games
   ○ d. most games won in a row

4. When did Notre Dame break the record held by the University of California at Los Angeles?

   ○ a. 1962
   ○ b. 1969
   ○ c. 1970
   ○ d. 1974

5. Who won the basketball game?

   ○ a. the Bruins
   ○ b. the Fighting Irish
   ○ c. the Los Angeles Lakers
   ○ d. the University of California at Los Angeles

TIP: Remember! More than one answer choice may have facts which are stated in the passage, but only one answer choice is correct.

Passages from Mary Carter, Reading for Comprehension (Baldwin, N.Y.: Educational Activities, Inc., 1982), p. 7.

NAME ______________________________ CLASS ________________

Directions: Read the story carefully. Then read the questions below the story. Find the best answer to the questions. Darken the oval in front of the correct answer.

COMMUNICATION ARTS TEST 1

Skill 1: Answering Who, What, When, and Why Questions at the Literal Level

Calypso

Calypso is a type of folk music played in the Caribbean area, South America, and West Africa. A distinctive element of calypso is the tendency to give words false accents and to crowd them to fit the meter of the music.

Almost any instrument may be used for calypso music. Some of the original instruments were homemade, such as drums made from oil cans. The calypso song usually deals with everyday life. It may describe a good quality or tell some bit of gossip about a particular person. Calypso songs also comment on politics and current events.

Calypso was originally a method of communication for slaves, who could not talk to each other while working in the fields. These field songs contained all the local gossip. Today calypso is a popular type of folk music. During carnival days many communities sponsor competitions between calypso singers. The contestants often take such names as Lord Invader, Lord Wonder, the Mighty Sparrow, or the Dictator.

1. What is a calypso song usually about?

○ a. false accents
○ b. the past
○ c. everyday life
○ d. the future

2. What was calypso originally used for?

○ a. contests
○ b. messages
○ c. oil cans
○ d. carnivals

Skill 1 continued

3. Where is calypso music popular?

○ a. North America
○ b. Asia
○ c. the Caribbean
○ d. South Africa

4. What makes calypso music different from other types of music?

○ a. It tells a story
○ b. It uses drums
○ c. It gives words false accents
○ d. It is popular

5. When do communities sponsor calypso competitions?

○ a. once a week
○ b. on carnival days
○ c. daily
○ d. monthly

Passage adapted from *Thinking and Test-taking Techniques*, Intermediate Level (New York: Community School District 12, 1983), p. 51.

Skill 2: Finding the main idea

PERFORMANCE OBJECTIVE: Students will be able to:

select a main idea or title for a test passage

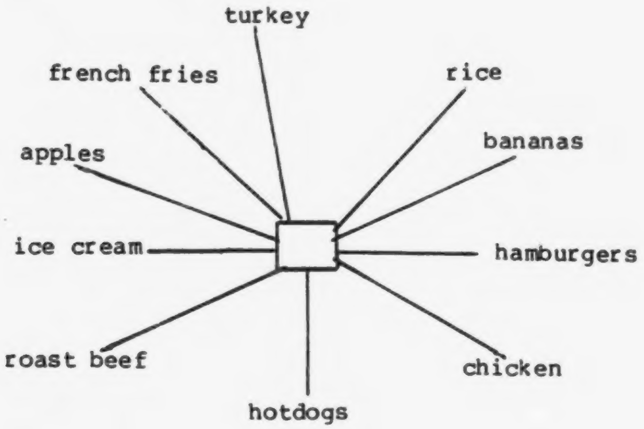
EXPLANATION: to select a main idea, students must:

(1) identify details related to the same topic
(2) relate supporting details to a main idea
(3) relate a main idea to an appropriate story title

DEVELOPMENT:

ACTIVITY 1

- Ask:
  - What kinds of food do you like to eat?
- Have students brainstorm responses, and write them on the board. For example:



- Say:
  - Look at these words. What are the different ways we can organize the words into groups, or categories? (Record the groups on chart paper.)
- Probe:
  - Why did you put these words together in a group? What name would you give your group? Why did you give your group that name?

ACTIVITY 2

- Say:

  - The details in a story--like the items in your groups--can help you figure out the main idea.

- Write the following story on chart paper, or duplicate and distribute it (see Appendix B):

  Jose, who is thirteen, wants to be a jockey. He loves to ride horses. He can imagine himself entering the homestretch with the crowd cheering and the other horses far behind. Jose saves the money he earns working after school to go horseback riding. He rides every weekend.

- Ask:

  - What is the main idea of the passage?
  - What details support the main idea? (Jose loves to ride horses, Jose imagines himself in the homestretch, etc.)

- Underline the supporting details, and discuss how they relate to the main idea.

- Ask:

  - What steps did you use to find the main idea?

- Discuss students' responses, writing them on chart paper for display in the classroom. For example:

  Steps in Finding the Main Idea

  1. Read the paragraph.
  2. Read the main idea questions and choices
  3. Go back to the paragraph and find the details that support the main idea.

ACTIVITY 3

- Write the following on chart paper for display in the classroom:

  Questions Which Ask for the Main Idea

  1. What is the story mainly about?
  2. The story is mainly about...
  3. The main idea of the story is...
  4. What is the passage mainly about?
  5. The best title for the passage is...

. Say:

- When you take a reading test, you are often asked to find the main idea or title of a passage. On a test, the questions on this chart are used to ask you for a main idea or title.

. Review and discuss the questions on the chart.

. Say:

- When finding the main idea or title, it is important to be able to eliminate wrong choices. You should immediately eliminate any choice that has nothing to do with the passage. You should also eliminate any choices that are too specific or too general. A choice is too specific if it covers only a small part of the passage you just read. A choice is too general if it covers more than what you have read.

. Write the following on chart paper, or duplicate and distribute it (see Appendix B):

Harriet Tubman was the most famous "conductor" on the Underground Railroad. This was a system which led southern Black slaves to freedom in the early 1800s. Born a slave in Maryland, Tubman worked as a field hand until about 1847, when she escaped to Pennsylvania. This brave woman organized numerous trips to the South, and she lead approximately 300 slaves to freedom.

Tubman is also famous for her military heroics. She is the only American woman to have led a military attack. This occurred during the Civil War when she served as a scout for the Union army. While commanding 300 Union troops in 1863, Harriet Tubman led a successful raid into Confederate territory which freed nearly 800 slaves.

. Say:

- What is the best title for this passage? (Elicit a number of responses.)

. Write the following answer choices on the board:

a. Harriet Tubman: A Military Commander
b. Harriet Tubman and the Underground Railroad
c. Slavery in the South
d. An American Heroine

. Ask:

- Which choice is the best title for this passage? (Discuss students' choices.)

- Say:

  - Let's look at the choices. Choice a is too specific because it only deals with military heroics. Choice b is also too specific. It only deals with the underground railroad. Choice c is too general. The passage did not focus on slavery. Choice d is the correct answer because the entire passage contains examples of Harriet Tubman's heroic deeds.

- Write the following on chart paper:

  The second paragraph is mainly about:

  a. Harriet Tubman's role in the Civil War
  b. how 800 slaves were freed
  c. Harriet Tubman's fight against slavery
  d. how Harriet Tubman served as a "conductor" on the Underground Railroad

- Ask:

  - What information does this question ask for? (main idea of second paragraph)

- Say:

  - Remember to read carefully. Sometimes the question asks for the main idea of a specific paragraph.

- Ask:

  - What is the correct answer?
  - What steps did you use to find the main idea?

- Review the steps used to find the main idea and to eliminate answer choices.

FOLLOW-UP:

- Distribute Communication Arts Worksheet 2, and follow the directions in the box at the top of the page.

- After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST:

- Distribute and administer Communication Arts Test 2. Follow the testing procedure outlined in the section of this guide called "How to Use This Book."

"Harriet Tubman" from Larry Berliner and Susan Berliner, *Reading Skills for Standardized Testing*, Level D (Maplewood, NJ: Hammond, 1983), p. 13.

Skill 2: Finding the Main Idea

Directions: Read each passage. What is the main idea or best title? Select the correct choice and darken the oval next to it.

Man O'War was an American race horse that won 20 of 21 races from 1919 to 1920. His winnings totaled nearly $250,000 in prize money. That was a very large amount of money in those days. In 1920, Man O'War set five American horse racing records. He was voted the greatest race horse for the first half of the 20th century.

1. The best title for this passage is:

○ a. American Horse Racing
○ b. Man O'War: Winner of 20 out of 21 Races
○ c. A Remarkable Race Horse
○ d. The Value of Money in 1920

A number of fish that make their homes in dark caves have no eyes at all. Their other senses, however, seem to make up for their blindness. In experiments, eyeless fish were placed in well-lit aquariums with fish that could see. The results showed that the blind fish were able to get enough food without difficulty.

2. What is the main idea of this story?

○ a. Blind fish in dark caves
○ b. There are many kinds of fish
○ c. Blind fish can survive because of their other senses
○ d. Blind fish have been placed in well-lit aquariums

Communication Arts Worksheet 2: page 2 of 2

Skill 2 continued

The history of the circus is a long one. It started in ancient times when the Romans watched men and animals battle in outdoor theaters. In 1770 an English soldier named Philip Astley opened a show in London. His circus was mostly horseback riding. One of Astley's best riders was Charles Hughes. Hughes also opened up a circus in England. A rider in his circus came to the United States in 1792. The rider's name was John Bill Ricketts.

3. The best title for this passage is:

○ a. The History of the Circus
○ b. The Roman Circus
○ c. The Circus of London
○ d. The Horseback Riding Circus

4. The main idea of this passage is:

○ a. Philip Astley started the horseback circus
○ b. the history of the circus is a long one
○ c. John Bill Ricketts started the American circus
○ d. how America's first circus started

TIP:

To find the main idea, look at all the details. Remember! The main idea can be found in different places, or it may not be stated in the passage at all.

"Man O'War" and "Fish" from Larry Berliner and Susan Berliner, *Reading Skills for Standardized Testing*, Level C (Maplewood, NJ: Hammond, 1983), p. 13.

"Circus History" from *High Action Reading, Skillbooster C, Comprehension*, by Pearl Neuman. (Cleveland, Ohio: Modern Curriculum Press, Inc., 1978), p. 15.

NAME ______________________________ CLASS ________________

COMMUNICATION ARTS TEST 2

Skill 2: Finding the Main Idea

Directions: Read each paragraph. Darken the oval next to the main idea or best title.

A graph is a drawing that is used to present information. It is used to present facts in pictured form. There are many types of graphs: bar graphs, line graphs, and circle graphs. Most graphs involve numbers which are used to show sizes or amounts. But all graphs serve the same purpose--to present information in a way that will be easy for the reader to understand.

1. What is the main idea of this passage?

○ a. there are many types of graphs
○ b. all graphs use numbers
○ c. all graphs give facts
○ d. graphs give facts in pictured form to make information easier to understand

Helicopters are excellent in rescue work. They can pick a man out of the sea, off a ship, or off a tall mountain peak. Another use of the helicopter is to carry passengers from the roof tops of city buildings to airports, thus avoiding traffic. They carry supplies to places having no landing fields or roads. Power companies use helicopters to inspect long power lines in wilderness areas.

2. What is this passage mainly about?

○ a. helicopters can carry supplies
○ b. helicopters have many uses
○ c. helicopters help tell us about the best route to work
○ d. the Army uses helicopters

Skill 2 continued

Nancy stopped at the water's edge with her friend Alice. She felt very small. Nancy wasn't sure she liked the sea. She scooped a hole in the sand, but water filled the hole. She patted a handful of wet sand onto her hot feet. It felt cool. A thin swoosh of water rushed toward her toes and then slipped back. She waited. Again the sudsy line came toward her. It looked so cool and inviting. Alice was too hot to wait any longer. She pranced happily into the beautiful green sea, leaving Nancy standing on the shore.

3. The best title for this story would be:

○ a. The Wet Sand
○ b. A Sudsy Line
○ c. Sand and the Sea
○ d. Nancy and Alice at the Seashore

4. What is this story mainly about?

○ a. sand castle building
○ b. hot summer days
○ c. at the beach
○ d. the green sea

Passages from *Thinking and Test-taking Techniques*, Intermediate Level (New York: Community School District 12, 1982), pp. 49-50.

Skill 3: Using words that signal cause and effect

PERFORMANCE OBJECTIVE: Students will be able to:

use words that signal cause and effect to locate answers to test passages

EXPLANATION: To answer cause and effect questions, students must:

(1) recognize words that signal cause and effect
(2) identify cause and effect relationships among ideas
(3) relate words that signal cause and effect to test questions and passages.

DEVELOPMENT:

ACTIVITY 1

. Write the following on chart paper:

The town on the small Hawaiian island had been devastated. Because the volcano had erupted, the town had been destroyed. What would the people do now?

. Ask:

- What happened to the town? (it was destroyed)
- Why was the town destroyed? (because the volcano erupted)

. Write students' responses on chart paper, and elicit the labels "cause" and "effect":

Cause	--------→	Effect	Signal Word
the volcano erupted		the town was destroyed	because

. Probe:

- What word helped you find the answer to why the town was destroyed? (because)

. Say:

- "Because" is a signal word that can help you find causes and effects.

ACTIVITY 2

- Write the following on chart paper, or duplicate it for distribution:

  1. The storm had raged all night. Rain flooded the valley. Due to high winds, the telephone lines were knocked down.
  2. The doctor was relaxing at home after seeing patients all day. It was late when the hospital called her, and she left for the emergency room.
  3. The student received a high score, because he studied a lot. Study is an important part of school life.
  4. Because of the snowstorm, the schools were closed. The weather report called for six more inches of snow.
  5. As a result of the school election, Sandy became president of the student council. She was the first girl to be elected.

- Have students analyze the selections to identify the causes, effects, and signal words. For each sentence, ask:

  - What is the effect? (What happened?)
  - What is the cause? (Why did it happen?)
  - What is the signal word?

- Add students' responses to the cause and effect chart:

Cause	-----→	Effect	Signal Word
high winds		telephone poles were knocked down	due to
hospital called		doctor left for the emergency room	when
studied a lot		received a high score	because
snowstorm		schools were closed	because
school election		Sandy became president	as a result of

- Have students write five original cause and effect sentences that use signal words.

- Have students read their sentences aloud and identify the causes, the effects, and the signal words. Record any new signal words on the chart.

ACTIVITY 3

- Distribute Worksheet 3A. Have students read the paragraph to identify the causes, effects, and signal words.

- Ask:

  - What is the first effect in the paragraph?
  - Why did the Europeans buy goods from India?
  - What word signals cause and effect?

- Add students' responses to the cause and effect chart, and repeat this procedure for the fourth, fifth, and last sentences:

Cause -----→	Effect	Signal Word
people wanted products they didn't have	India sold many products to Europe	because
no refrigeration	foods spoiled fast	as a result
spices slow down spoiling	Europeans wanted spices to add to food	because
bright colors and designs	Europeans liked the carpets and cloth	because

- Say:

  - We found one cause for Europeans wanting spices to add to food. Look at the sentence that begins "in addition." Can you find another cause for this effect? What is it? (Add it to the chart.)
  - Sometimes an effect may have more than one cause. Words like "in addition" are clues that can help you find more causes for an effect.

- Have students read and follow the directions in the middle of Communication Arts Worksheet 3A, and review students' responses.

- Probe:

  - What details led you to that answer?
  - What signal words helped you locate the correct answer?

FOLLOW-UP:

- Distribute Communication Arts Worksheet 3B, and follow the directions in the box at the top of the page.

- After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST:

- Distribute and administer Communication Arts Test 3. Follow the testing procedures outlined in the section of this guide called "How to Use This Book."

COMMUNICATION ARTS WORKSHEET 3A

Skill 3: Using Words that Signal Cause and Effect

In the 1400s India sold many products to Europe. Europeans were eager to buy these products because they didn't have them in their own countries. Among the most important products were spices. There were no refrigerators in those days, and as a result, foods spoiled fast. Europeans wanted spices to add to their foods because spices could prevent foods from spoiling rapidly. In addition, when spices were added to foods, the foods tasted better. Some of the spices were pepper, cloves, and cinnamon. Europeans also liked the carpets and dyed cloth made by the weavers of India, because of the bright colors and interesting designs.

Directions: Read the following questions. Pick the best answers. Fill in the circle next to each correct answer. Use signal words to help you find causes and effects.

1. What effect does spice have on food?

○ a. slows down spoilage
○ b. makes food taste bad
○ c. makes food cost less
○ d. spoils food

2. What caused Europeans to trade with India?

○ a. lack of money
○ b. India's geographical location
○ c. the restaurant business
○ d. desire for new products

3. What was the effect of not having refrigeration?

○ a. food tasted better
○ b. Europeans traveled a lot
○ c. foods spoiled fast
○ d. people liked cinnamon

4. What caused Europeans to buy Indian cloth?

○ a. their bright colors and designs
○ b. the need for spices
○ c. lack of refrigeration
○ d. the need to prevent food from spoiling

COMMUNICATION ARTS WORKSHEET 3B

Skill 3: Using Words that Signal Cause and Effect

Directions: Read the selection. Fill in the circle next to each correct answer.

The two men wanted to climb Mt. Everest. It was a lifetime dream. They were experienced mountain climbers. For two years, they planned their approach. First, they received permission from the government of Tibet to make the climb. Not everyone was allowed to do it, because many people had been killed trying to climb the mountain. Then they looked at the paths other climbers had used, because they wanted the shortest yet safest route. Because of the threat of high winds and snowstorms, they studied the weather charts. Finally, they checked and rechecked their equipment. As a result of their work and detailed preparation, they were now ready to scale Mt. Everest.

1. Because many people had been killed trying to climb the mountain:

○ a. Mt. Everest was a lifetime dream
○ b. the Tibetan government did not allow everyone to do it
○ c. the climbers took other paths
○ d. the climbers were experienced

2. The two men looked at the paths other climbers had used because:

○ a. they needed permission
○ b. there were high winds
○ c. they were working in Tibet
○ d. they wanted to find a short, safe route

3. As a result of their work and preparation, the climbers:

○ a. were killed trying to climb Mt. Everest
○ b. walked on paths
○ c. gave up and went home
○ d. were ready to scale the mountain

☞ TIP: Remember! Look for key words.
. The cause is why something happened.
. The effect is what happened.

A NEED TO READ: UNDERSTANDING DETAILS AND SEQUENCE, LEVEL A: "Climbing Mt. Everest," passage adapted from Sidney J. Rauch and Phillip K. Trocki, p. 27; (c) 1980; The Globe Book Company, Inc.; Used by permission.

NAME ______________________________ CLASS ________________

COMMUNICATION ARTS TEST 3

Skill 3: Using Words that Signal Cause and Effect

Directions: Read the passage. Fill in the circle next to each correct answer.

In times of trouble, people need to work together as a group in order to survive.

On March 27, 1964, a terrible earthquake hit Alaska. It was the most powerful quake to strike North America in this century. As a result of the earthquake, bridges fell, railroad tracks bent like paper straws, and highways broke apart. In Alaska's cities, buildings caved in and streets crumbled. Thousands of homes were damaged or destroyed. Cars were smashed, and stores and other businesses were left in ruins.

Because of the quake, giant tidal waves rolled in from the sea. Boats, docks, and buildings were washed away, and whole fishing villages vanished.

The people of Alaska were faced with the huge task of getting their state moving again. Because of their great courage and their pioneering spirit, they began to pick up the pieces. As soon as the quake was over, teams of workers came together to repair gas lines, water pipes, and sewers. People began to pull their belongings from damaged stores and houses. They used cranes to clear away the wreckage.

People from outside Alaska helped, too. Medicine and other supplies arrived by plane when people around the United States sent money to help Alaska rebuild.

Because much of Alaska lies in a part of the world where earthquakes can happen at any time, the danger of earthquakes will remain. But the people of Alaska are busy rebuilding their state.

1. The passage states that the danger of earthquakes will remain. What is the cause of this?

   ○ a. tidal waves
   ○ b. railroads
   ○ c. rebuilding cities
   ○ d. Alaska's geographical position

Communication Arts Test 3: page 2 of 2

Skill 3 continued

2. According to this story, what happened as a result of the earthquake?

○ a. bridges, cities, and homes were destroyed
○ b. people made paper straws
○ c. people went fishing
○ d. many people died

3. The tidal waves were caused by:

○ a. the quake
○ b. boats and docks rolling
○ c. fishermen
○ d. repairs to gas lines

4. The people's great courage and pioneering spirit caused them to:

○ a. wash fishing boats
○ b. buy new cars
○ c. move again
○ d. start building all over again

5. Why did people from around the United States send money to Alaska?

○ a. because people wanted to buy Alaskan fish
○ b. because of the Alaskans' pioneering spirit
○ c. because Alaskans had no boats
○ d. because Alaskans' homes were destroyed

Passage adapted from William Liddle, *Reading for Concepts*, Level F, 2nd edition (New York: McGraw-Hill, 1977), p. 30.

Review I: Analyzing and answering test questions: Skills 1-3

> Stop and assess students' understanding of test questions and kinds of answers. If necessary, return to previously taught skills, and reteach them using additional instructional materials.

PERFORMANCE OBJECTIVE: Students will be able to:

analyze and answer three types of test questions: main idea, details, and cause and effect

EXPLANATION: to analyze and answer test questions, students must:

(1) recognize and differentiate among various types of test questions
(2) determine the kind of answer that the test questions require

DEVELOPMENT:

ACTIVITY 1

- Distribute Communication Arts Review Worksheet I.
- Have students read the directions and explain what they are asked to do. Do the first item with the class.
- Ask:
  - What kind of a question is this? (main idea)
  - What key question words helped you decide on the kind of question? (all about)
  - What kind of answer must you look for?
- Elicit similar responses for questions 2 and 3. Check students' responses on their worksheets.
- Have students complete the rest of the worksheet independently. Tell them to use what they have learned about main idea, detail, and cause and effect questions to help them complete the worksheet.
- Probe students' responses, and use the worksheet to assess students' understanding of main idea, detail, and cause and effect questions, as well as key question words and kinds of answers to look for. If necessary, reteach the skills.

ACTIVITY 2

- Write the headings from the review chart below on chart paper and fill in the left column only.
- Say:
  - We have learned how to identify and answer detail, main idea, and cause and effect questions on a test. (Refer to the review chart.) Let's review what we have learned so far.
- Ask:
  - What are story details?
  - What key question words signal story details? (who, what, when, where, why)
  - What kinds of answers would you look for? (who = person, etc.)
- Record students' answers on the review chart. Repeat the same process for main idea and cause and effect questions:

Review Chart

Type of Question	Key Question Words	Kind of Answers to Look for
Detail	who, what, when, where,	who = person what = thing where = place
Main Idea	all about, mainly about, title	details that go together first and last sentence clues
Cause and Effect	because, as a result of, due to	what happened = effect why it happened = cause

- (Optional) Have students write original examples for each of the three types of test questions. Write some of their examples on chart paper. Have students underline the key question words.

COMMUNICATION ARTS REVIEW WORKSHEET I

Skills 1-3

Directions: Read each test question. Use your test-taking skills to decide what type of question it is. Complete the review chart below.

Test Questions

1. What is the story all about?
2. The lights went out all over the city because __________.
3. What is the best title for the story?
4. As a result of the primary election, who became the candidate?
5. When did the show take place?
6. What is the main idea of this story?
7. Who played first base for the Mets last year?
8. Where is Salt Lake City located?
9. Why did the dog bite the boy?
10. What were the causes of the Civil War?

Type of Question	Key Question Word	Kind of Answers to Look for
1. main idea	all about	first and last sentence clues, story details that go together
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

COMMUNICATION ARTS REVIEW TEST I

Practice Test: Skills 1-3

Teacher:

This test is administered in one session. Allow 25 minutes for students to complete the test.

. Distribute Communication Arts Review Test I, "Practice Test: Skills 1-3."

. Distribute the answer sheet that follows the practice test.

. Read the directions to students as they read along silently. Be sure that students understand what to do.

. Do sample A with students. Demonstrate how to fill in the oval next to the correct answer choice, and answer any questions students may have.

Say:

- Find sample A.
- Read sample A. Then read the question below. Find the best answer to the question. On your answer sheet find the row of spaces next to A and fill in the space that has the same letter as the answer you chose. Then STOP.

Ask:

- What answer did you choose?
- What kind of a question is this? (detail)
- Did any key words help you find the answer? (what)
- How did they help?

Say:

- The correct answer is d, go camping, because it answers the question "What were Louise and Tony going to do on the weekend?"
- Complete the rest of the items on the test. If you are not sure of an answer, use the test-taking skills you have learned. Whenever you see GO ON, go to the next page. Stop when you see the word STOP.
- You will have 25 minutes to complete the test.

. Write the time on the board. Remind students to use the tips they have learned for using time effectively on a test. (See Mechanics Skill 3.)

. Review the test with students. Use the answer matrix in the appendix to help you assess students' mastery of the three types of test questions. Items that are starred in the answer matrix will be taught in the next section of the handbook.

. If necessary, reteach skills students have had difficulty answering correctly.

Grade 6
NAME ______________________________ CLASS ________________

COMMUNICATION ARTS REVIEW TEST I

Practice Test: Skills 1-3

Directions: Read each passage. Then answer the questions that follow it. Choose the best answer for each item. Fill in the correct oval on your answer sheet.

SAMPLE A

Tony and Louise were going camping for the weekend. They had their camping gear all ready. Except for a three day supply of food, they were ready to go.

What were Tony and Louise going to do on the weekend?

a. go to school
b. go to the store
c. stay at home
d. go camping

STOP

Many call her the Queen of Jazz. Her name is Mary Lou Williams. In the 1930s, she wrote songs and played the piano. Her jazz music made her famous. She played in all the best music clubs. She worked with other great musicians through the years and wrote about 400 songs.

For a long time, she forgot about being famous, spending a great deal of her time in church. Then she began to work on a new idea. She mixed the music of the church with jazz music.

Great symphony orchestras and ballet companies played her new music. The dance director Alvin Ailey liked to use Black music as the center of his dances; his famous dance company used Williams' Jazz Mass for a ballet called "Mary Lou's Mass."

Mary Lou Williams is happy about mixing jazz and church music. To her, real jazz has love.

1. What is Mary Lou best known for?

   a. writing a symphony
   b. ballet dancing
   c. going to church
   d. writing and playing jazz music

2. Alvin Ailey used Mary Lou's music because:

   a. he liked church music
   b. he was Mary Lou's friend
   c. he liked to use Black music
   d. Mary Lou was the Queen of Jazz

3. Which of these words best describes Mary Lou?

   a. lazy
   b. talented
   c. ambitious
   d. forgetful

4. What is the story mainly about?

   a. a famous Queen of Jazz
   b. church music
   c. life in the 1930s
   d. Alvin Ailey

GO ON

Since 1975, more than a million refugees, people who leave their homes to find safety in other places, have fled from Southeast Asia. Setting out from Vietnam, Cambodia, and Laos into the China Sea, they board rafts, junks, or any other vessels they can find. The refugees, known as the "boat people," wait on their boats or in camps, hoping to be allowed to start a new life in such different places as Ireland, Australia, Malaysia, and the United States.

Conditions aboard the boats are unsanitary. There is very little fresh water, almost no medicine, and no way to remove human wastes cleanly. Large numbers of the boat people have survived these poor conditions to find new homes, but thousands of others have perished.

Even those who have found new homes, have not always found happiness, however. They have often received unfriendly welcomes in their new lands. But many have worked hard to make new lives in other countries.

5. What is the best title for this story?

    a. Life on Boats
    b. Conditions in Refugee Camps
    c. Boats in Southeast Asia
    d. Refugees from Southeast Asia

6. Refugees are people who:

    a. go on vacation in other countries
    b. leave their homes to find safety elsewhere
    c. live in unsanitary conditions
    d. live in Southeast Asia

7. According to this passage, why have thousands of Southeast Asian refugees perished?

    a. They were not welcome in their new homes.
    b. The boats sank in the China Sea.
    c. They worked too hard.
    d. There were unsanitary conditions on the boats.

8. In which one of the following countries did refugees find new homes?

    a. Cambodia
    b. Laos
    c. United States
    d. China Sea

GO ON

Sometimes I wish
I could fold myself
between two pieces of bread
and gobble myself away,
'til there's no more.

That's how bad I feel, sometimes.
Especially when I do something
really, really bad.

That's when I want you
to do something
to help me be better...
not badder
next time.

That's when I want you
to talk with me,
not to the air
or other people.
I need to hear
you say something other than...
"I just don't know what
to do with this child!"

9. Who is the author of this poem?

   a. a child
   b. a mother
   c. a father
   d. a grandparent

10. What is this poem mainly about?

   a. making a sandwich
   b. a bad child answering back
   c. a child asking for help
   d. two pieces of bread

11. According to this poem, a child feels unhappy because she:

   a. has eaten too much
   b. has talked too much
   c. did something bad
   d. felt sick

GO ON

The Army has learned of an amazingly simple method to tell which direction is north. All a lost soldier needs is a bit of sunlight, a straight stick, and skill in drawing a straight line. The Army paid $500 for the idea. They are including it in their field manual on how to survive in the wilderness.

Who thought of this clever idea? A sixteen-year-old boy! Before he sent his idea to the Army, he tried it out in the woods. Because the method was so simple, the youth thought that others must have known about the idea for a long time. But long hours of research failed to uncover any evidence that anyone had ever thought of it before.

If you are lost, this is what you do. Look for a flat place where the sun is shining. Put a four-foot stick into the ground so that it stands straight up. Mark the tip of its shadow. Wait for 15 minutes or so. The shadow will have moved. Mark the tip of this shadow, too.

Then draw a line between the two marks you have made. It will run east and west. Now draw another line from the bottom of the vertical stick so that it crosses the east-west line at right angles. This line points north. Now, you are not lost any more! This method is even more exact than a compass. The Army has found that the vertical stick method works even on cloudy days. If the stick is tapped, enough movement is created to cause a spot of faint shadow.

12. What is the main idea of this story?

    a. a method for finding directions
    b. using a compass
    c. learning things in the Army
    d. getting lost in the woods

13. According to this passage, how can you learn about the vertical stick method?

    a. do long hours of research
    b. spend time in the wilderness
    c. visit an army camp
    d. read the Army field manual

14. Before the teenager sent in his idea to the army, he:

    a. tried it out in the woods
    b. did a lot of research
    c. spent $500
    d. worried that the Army would not like the idea

GO ON

15. According to this passage, which of the following is an opinion?

    a. The Army paid $500 for the vertical stick idea.
    b. The vertical stick method is the best method for finding directions.
    c. The vertical stick method works on cloudy days.
    d. The vertical stick method tells which direction is north.

GO ON

In 1848, a carpenter named James Marshall was working on the banks of the American River in California. Yellow stones, shining in the water, caught his eye. Captain John Sutter, who owned the land, had moved to Sacramento in 1839. He realized that the stones Marshall showed him were gold. The Sutter ranch was located at the foothills of the Sierra Nevada Mountains, near the present city of Sacramento. Although Marshall and Sutter tried to keep their find a secret, the news leaked out. Yet, because communications were slow, it was nearly a year before people back East heard about the gold find. By 1849, the "gold rush" was on!

Because of the discovery of gold in California, thousands of people left their homes, families, and jobs and flocked to California. These Forty-niners hoped to strike it rich and become millionaires overnight. But many of them never even made it to California. In those days, there were three ways to travel from the east to the west coast of the United States, and none was safe or quick. Some adventurers sailed from Atlantic ports around South America and north to California. Others went by ship to Panama, then walked through the hot, typhoid-ridden jungles of the isthmus to the Pacific, where they would get another ship for California. Some goldseekers went overland, across the United States, where they faced deserts, hostile Indians, and mountain snows. "Gold fever" was high, and no hardship was too great for these people.

Very few, however, found enough gold to make their fortunes. Nevertheless, most of the Forty-niners remained in California, finding other, more realistic jobs. Because of this, the population of California soared, and the territory soon had enough people to qualify for statehood. In 1850, California joined the Union.

16. Which title best tells what the story is about?

    a. Some Facts about the Gold Rush
    b. How to Get to California
    c. How to Find Gold
    d. Hardships of the Forty-niners

17. The gold rush in California began when:

    a. people in the East heard about the gold
    b. John Sutter bought land in California
    c. California became a state
    d. the population of California soared

GO ON

18. Who were the Forty-niners?

    a. people born in 1849
    b. people who lived on the 49th parallel
    c. people who looked for gold in California
    d. people who joined the Union

19. What were the yellow stones John Sutter found?

    a. Indian artifacts
    b. gold nuggets
    c. gold coins
    d. worthless rocks

20. Which of the following is a fact stated in the passage?

    a. The Forty-niners were brave.
    b. The gold rush was the best thing that happened to California.
    c. In 1850 California joined the Union.
    d. John Sutter was selfish.

21. When was gold discovered in California?

    a. 1839
    b. 1848
    c. 1849
    d. 1850

STOP

"Mary Lou Williams" passage adapted from *Thinking and Test-taking Techniques*, Intermediate level (New York: Community School District 12, 1983), pp. 250-251. "Refugees" passage adapted from *Vocabulary Improvement*, Scope (New York: Scholastic Book Services, 1980), p. 76. Poem "Sometimes I Wish" from *Strategies for Achievement in Reading*, Level 6 (New York: Community School District 6). "Straight Stick Method" and "Gold Rush" passages adapted from *Strategies for Achievement in Reading*, Level 6 (New York: Community School District 6).

COMMUNICATION ARTS REVIEW TEST I

Answer Sheet

LAST NAME	FIRST NAME	MI

SAMPLE A

A ⓐ ⓑ ⓒ ⓓ

1 ⓐ ⓑ ⓒ ⓓ
2 ⓐ ⓑ ⓒ ⓓ
3 ⓐ ⓑ ⓒ ⓓ
4 ⓐ ⓑ ⓒ ⓓ
5 ⓐ ⓑ ⓒ ⓓ
6 ⓐ ⓑ ⓒ ⓓ
7 ⓐ ⓑ ⓒ ⓓ
8 ⓐ ⓑ ⓒ ⓓ
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20 ⓐ ⓑ ⓒ ⓓ
21 ⓐ ⓑ ⓒ ⓓ

Skill 4: Distinguishing between fact and opinion

PERFORMANCE OBJECTIVE: Students will be able to:

distinguish between fact and opinion in a sentence or paragraph

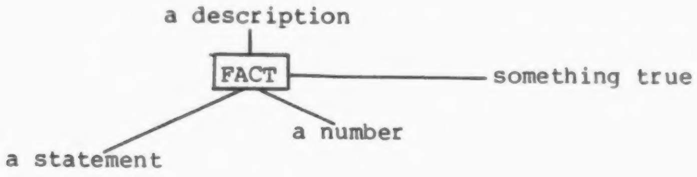
EXPLANATION: to distinguish fact from opinion, students must:

(1) understand the difference between a fact and an opinion
(2) identify fact and opinion signal words
(3) use signal words to distinguish between fact and opinion

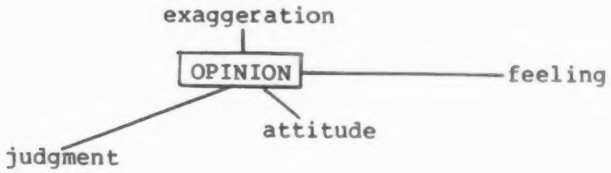
DEVELOPMENT:

ACTIVITY 1

- Write the words "fact" and "opinion" on chart paper.
- Ask:
  - What do we mean when we say the word "fact"?
- Have students brainstorm responses, and write them on the board. For example:



- Ask:
  - What do we mean when we say the word "opinion"? Repeat the procedure used above. For example:



- Elicit fact and opinion sentences and write them on the board. For example:

Facts

1. We are in room 309.
2. The sky is blue today.
3. Our teacher is Ms. Think.

Opinions

1. Our class is the very best class in the school.
2. The weather is terrible.
3. Ms. Think is the smartest teacher in the school.

ACTIVITY 2

- Write the following on chart paper, eliciting the examples, signal words, and clues:

Facts

A fact is a specific detail.

Facts are:	Examples of facts are:
1. Numbers	1983, 2,786 miles, etc.
2. Events that happened	The Titanic sank in 1912.
3. What a person said	quotation marks, statements
4. Descriptions	of a person, place, thing

Opinions

Opinions always express judgment.

Opinions are:	Signal words/clues are:
1. Exaggerations	always, never, constantly
2. Personal judgments	good, fabulous, better than, best, useful dreadful, wasteful
3. Feelings or ideas	I feel, I think, I believe
4. Commands or suggestions	should, ought to, have to

- Ask:

  - Based on this chart, what do you think is the difference between a fact and an opinion?
  - Which words signal facts?
  - Which words signal opinions?
  - When would this skill be useful? (tests, reading newspapers, etc.)

ACTIVITY 3

. Distribute copies of Worksheet 4A, have the proclamation read, and elicit students' opinions about it.

. Have students read the two letters on Worksheet 4A.

. Say:

- Remember, writers often blend fact and opinion. You have to be a careful reader to tell the difference between factual information and the writer's opinion.

. Ask:

- What did Mary think of the new rules?
- Did Mary use facts or opinions to support her ideas?
- What facts did Mary use?
- What opinions did she state?

. Probe:

- What clues helped you decide what was a fact and what was an opinion?

. Repeat the same procedure for Joe's letter.

FOLLOW-UP:

. Distribute Communication Arts Worksheet 4B, and follow the directions in the box at the top of the page.

. After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST:

. Distribute and administer Communication Arts Test 4. Follow the testing procedure outlined in the section of this guide called "How to Use This Book."

Skill 4: Distinguishing Between Fact and Opinion

Proclamation

To all teachers and children:

This is to inform you that the changes listed below will take effect immediately.

1. There will be a charge of 5 cents for a drink of water.
2. There will be a charge of 10 cents for bathroom privileges.
3. There will be an admission charge of 25 cents for use of the schoolyard.
4. The school day will be extended until 3:30.
5. Summer vacations will be shortened to 3 weeks.

These decisions are final and not subject to change.

By order of the principal,
Dr. I. M. Grouchy

Dear Mr. Grouchy:

I like the new rules in your proclamation. I think that the new rules will have a good effect on school life. If the school day is extended and summer vacations are shortened, there will be more time for instruction and students will probably learn more.

Sincerely,
Mary Jones

Dear Mr. Grouchy:

I do not like the new rules in your proclamation. I believe the new rules will make children unhappy. Students go to school for many years. I don't think that we need additional time in school.

If students have to pay for water, poor students may always be thirsty. People need water to live.

Sincerely,
Joe Smith

Skill 4 continued

Directions: Read each question. Circle the letter of all sentences that apply.

1. In Mary Jones' letter which statement is a fact?

   a. The rules will have a good effect on school life.
   b. The school day will be longer.
   c. Students will learn more.
   d. Shorter summer vacations are good.

2. Which of the following is an opinion in Mary Jones' letter?

   a. The new rules will have a good effect on school life.
   b. There will be more time for instruction.
   c. There will be less time for instruction.
   d. There are new rules in the proclamation.

3. According to Joe Smith's letter, which statement is a fact?

   a. The new rules will make children happy.
   b. Students go to school for many years.
   c. Students have to pay for water.
   d. We need additional time in school.

4. Which of the following gives Joe Smith's opinion?

   a. The new rules will make children unhappy.
   b. Mr. Grouchy is not a nice man.
   c. School is hard.
   d. Students should pay for water.

Letters from *IMPCA: Instructional Management Project Communication Arts,* Experimental edition (New York: New York City Board of Education, 1982), pp. 1-5.

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COMMUNICATION ARTS WORKSHEET 4B

Skill 4: Distinguishing Between Fact and Opinion

Directions: Read the selection. For questions 1-3, indicate whether the selection is fact or opinion by filling in the circle next to your choice. For questions 4 and 5, fill in the circle next to the correct answer.

1. There are currently more than two hundred million people living in the United States.

   ○ a. fact
   ○ b. opinion

2. It was much nicer in the neighborhood I used to live in. The people here are nice, but they're not as friendly as the folks who live in my old neighborhood. I'll never make any good friends here.

   ○ a. fact
   ○ b. opinion

3. Chiang Kai-shek was a political leader in 20th-century China. He was elected president in 1948 and retained the position when the government retreated to Taiwan in 1949. He died in 1975.

   ○ a. fact
   ○ b. opinion

4. Nelida Pinon, the famous Brazilian novelist, is my favorite writer. Her writing is brief and to the point. She will be a best-selling author in the United States when her books are sold here.

   Based on this passage, which of the following states a fact?

   ○ a. Pinon is a favorite writer of many people.
   ○ b. Pinon novels are better than other writings.
   ○ c. Pinon sold over 100,000 copies of her book.
   ○ d. Melida Pinon is a famous novelist.

Skill 4 continued

5. Americans had better start worrying about the energy crisis. According to statistics from the United States Department of Energy, American natural gas and oil reserves will last only 25 more years if Americans continue to use energy at the same rate. A New York Times study indicated that Americans are more wasteful of energy than are the French, West Germans, or Japanese.

Based on this passage, which of the following states an opinion?

○ a. Americans waste more energy than the French do.
○ b. Japanese waste less energy than Americans.
○ c. Americans had better start worrying about energy.
○ d. The United States Department of Energy states that natural gas reserves will last only 25 more years.

TIP:

Use your fact and opinion clues to help you find the answers.

Items 1-4 adapted from *High Intensity Learning Systems 2*, Book 2, (New York: Random House, 1982). Reprinted by permission.

Item 5 adapted from Board of Education of the City of Chicago, Chicago Mastery Learning Reading with Learning Strategies, Teacher Manual, Comprehension, Purple Book (Chicago: the Board, 1982), p. 30. Reprinted with permission.

NAME ______________________________ CLASS ________________

COMMUNICATION ARTS TEST 4

Skill 4: Distinguishing Between Fact and Opinion

Directions: Read each selection. Based on the selection, indicate the correct answer to each question by filling in the circle.

> According to a recent study in Time magazine, 73 percent of American teenagers prefer blue jeans over any other style of dress. According to this survey, teenagers prefer wearing blue jeans because they are convenient, they last a long time, and they are easy to take care of. I think that wearing blue jeans is a sign of the times. All teenagers want to look like all other teenagers. Teenagers are afraid to be different or to look different. They have lost their independence and are afraid to choose clothes that express their individuality. Instead, they want to melt into the crowd.

1. Based on the selection, which of the following states a fact?

○ a. Teenagers want to look alike.
○ b. Teenagers prefer wearing blue jeans.
○ c. Teenagers are afraid to be different.
○ d. Teenagers want to melt into the crowd.

2. Which of the following states an opinion?

○ a. Teenagers prefer wearing blue jeans because they last a long time.
○ b. Time magazine conducted a recent study of teenagers.
○ c. Teenagers want to look and act like one another.
○ d. Teenagers prefer wearing blue jeans because they are easy to take care of.

Skill 4 continued

Car drivers are legally required to have a license to drive a car in the United States. To get a driver's license, the individual must pass a road test by driving a car properly and pass a written test on the driving laws. We think that the road test is completely unnecessary and takes too much time to give. In some cities, there is a two-month waiting period to take the driving test. That means that people who are ready to drive cannot do so. Mr. Kendall, the president of the Tri-State Car Dealers' Association, states, "Anyone who knows the driving laws should receive a driver's license. Driving a car takes no more skill than walking, and anyone who can walk and pass the written test should get a driver's license automatically."

3. Based on the selection, which of the following states a fact?

○ a. A road test is unnecessary.
○ b. Anyone who can walk can drive.
○ c. Anyone who knows the driving laws should receive a license.
○ d. Car drivers are legally required to have a license to drive.

4. Which of the following states an opinion?

○ a. In some cities there is a two month waiting period to take a driving test.
○ b. To drive a car in the United States, people are legally required to have a license.
○ c. In the United States you must pass a road test and a written test in order to get a license.
○ d. Anyone who can walk should get a driver's license.

Skill 4 continued

Dear Editor,

In our opinion, the River City Sanitation Department is falling down on the job. According to a recent study by a consulting service, our city has more than 2,000,000 rodents. Uncollected garbage is stacked behind apartment buildings and left there for up to a week. Some streets had to wait up to five days to be cleared after the recent snowstorm.

We believe that this unhealthy condition can be laid directly at the mayor's door. In 1976 the mayor fired Mr. Brenner, the sanitation commissioner who was doing an excellent job, and invited an old crony, Mr. Ander, to take over the Sanitation Department.

Mr. Ander, who has been in office for two years now, has become more and more careless in his responsibilities. We have tried to contact him five times in the past week and not once has he been in his office. What is he doing? Absolutely nothing, so far as the Sanitation Department goes. We strongly recommend that the mayor fire Mr. Ander and bring in someone who is willing to work--someone like Mr. Brenner!

Sincerely,
River City Tax Payers' League

5. Based on the selection, which of the following states a fact?

○ a. The mayor is directly responsible for poor sanitation conditions.
○ b. In 1976 the mayor fired the sanitation commissioner.
○ c. The Sanitation Department is falling down on the job.
○ d. Mr. Anders has become more and more careless in his responsibilties.

6. Based on the selection, which of the following states an opinion?

○ a. Unhealthy conditions exist.
○ b. Uncollected garbage is stacking up.
○ c. In 1976 Mr. Brenner was fired.
○ d. The River City Sanitation Department is falling down on the job.

Passage adapted from Board of Education of the City of Chicago, Chicago Mastery Learning Reading with Learning Strategies, Teacher Manual, Comprehension, Purple Book (Chicago: the Board, 1982), p. 320. Reprinted with permission.

Skill 5: Using words that signal sequence

PERFORMANCE OBJECTIVE:

Students will be able to:

use sequence words as signals to locate answers to test passages

EXPLANATION:

To answer sequence questions, students must:

(1) understand that sequence is the ordering of information or ideas
(2) identify words that signal sequential order
(3) relate signal words in questions to test passages

DEVELOPMENT:

ACTIVITY 1

. Ask:

- What are some examples of how sequence plays a role in your daily lives?

. Discuss the importance of sequence, eliciting examples in students' lives. For example: alphabetical order; chronological order (dates in history, times in radio and television listings); directions in school (lining up, fire drills, lunch procedures); directions for making or doing things (following recipes, playing games); story sequence (stories, cartoons).

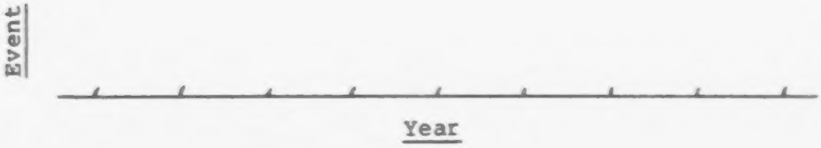
. Say:

- Think about your life. Then write down five or six important events that have happened to you. For example: your birth, starting school, etc.
- Number the events in time order.

. Say:

- Today we will use a timeline to chart in sequential order the events in your life.

. Distribute and have students complete the following timeline:



- Ask:
  - Which event came first in your life?
  - What was the second event on your timeline?
  - Which event came at the midpoint of your timeline?
  - Which event came last?
- Have students write short paragraphs based on the timelines and read their paragraphs aloud.
- Ask:
  - Which words did you use in your paragraph to indicate when the events happened? (Write these on the board.)
- Say:
  - When we read or write, we use certain words to signal sequence. (Refer to words students used in their written paragraphs.)
- Elicit additional sequence words and write all of them on chart paper for display. For example:

Sequence Signal Words

first
second
third
later
last
early
after

next
then
finally
in conclusion
so
long ago
in 1984

today
yesterday
tomorrow
before
often
soon
middle

ACTIVITY 2

- Say:
  - Sometimes when you take a reading test, you have to use sequence signal words to help you find the answers.
- Write this paragraph and questions on chart paper or duplicate it for distribution:

New York - In the first quarter of the game, Tatu scored three goals for Tampa Bay. Peter Roe and Greg Thompson each scored twice for the Cosmos.

In the second quarter, the Cosmos scored four consecutive goals in less than six minutes. The third quarter saw Tampa Bay score six consecutive goals. In the final quarter of the game, Terlicki, Karpur, and Tatu all scored. The final score was Tampa Bay 12, Cosmos 8.

1. In the first quarter of the game:

    a. Tampa Bay won the game
    b. Peter Roe and Greg Thompson scored
    c. Tatu scored three goals
    d. The Cosmos went ahead

2. The Cosmos scored four consecutive goals in less than six minutes in:

    a. the first quarter
    b. the second quarter
    c. the third quarter
    d. the last quarter

. Probe:

- Where might you find a story like this? (newspaper, Sports Illustrated, etc.)
- In what kind of sequence is the story written? (time)
- What are the sequence signal words in the story? In the questions?
- Did the sequence signal words help you find the correct answer? How?

ACTIVITY 3 . Distribute Worksheet 5A.

. Say:

- Let's read this story about a class trip to Washington, D.C., and answer the sequence questions that follow.

. Elicit students' responses.

. Probe:

- What details in the story led you to select your answer?

FOLLOW-UP: . Distribute Communication Arts Worksheet 5B and follow the directions in the box at the top of the page.

. After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST: . Distribute and administer Communication Arts Test 5. Follow the testing procedure outlined in the section of this guide called "How to Use This Book."

COMMUNICATION ARTS WORKSHEET 5A

Skill 5: Using Words That Signal Sequence

Directions: Read the selection. Fill in the circle next to each correct answer.

It was February and time to start planning for our June trip to Washington, D.C. The students at my school, P.S. 101, had a tradition which started in 1931. It was the annual trip by the sixth grade class to Washington, D.C. No one had any intention of doing away with this custom. Even during the years of World War II (1941-1945), sixth-grade classes had made the trip. But it required planning. It was expensive, and the students had to raise the money. The bus trip and hotel rooms took most of the money. Gone were the days when two students could share a room for $10. Now $30 per day was a bargain! Back in 1931 the price of gas was about 15 cents a gallon. Now it was close to $1.50. There was a lot to be done before the trip in June. The first thing we had to do was elect a planning committee. We would have to get things started, and February wasn't too early to start.

1. When did the tradition of the annual trips to Washington, D.C., begin?

   ○ a. 1921
   ○ b. 1931
   ○ c. 1941
   ○ d. 1945

2. When did the sixth grade start planning for the June trip?

   ○ a. January 1st
   ○ b. February
   ○ c. after June
   ○ d. during class

3. The sixth grade took the trip:

   ○ a. in 1930
   ○ b. only before World War II
   ○ c. during World War II
   ○ d. only after World War II

4. The first task to be completed by the sixth grade would be:

   ○ a. finding ways to raise money
   ○ b. electing a planning committee
   ○ c. making reservations for hotel rooms
   ○ d. paying $1.50

Passage adapted from A NEED TO READ: UNDERSTANDING DETAILS AND SEQUENCE, LEVEL C: "Annual Trip to Washington; Sidney J. Rauch and Phillip K. Trocki, p. 39; (c) 1980; The Globe Book Company, Inc. Used by permission.

COMMUNICATION ARTS WORKSHEET 5B

Skill 5: Using Words That Signal Sequence

Directions: Read the selection. Fill in the circle next to each correct answer.

Little Rock Decision: Desegregate the Schools

Prior to 1954, 17 southern states had laws that separated students by race. White students had to go to certain public schools, and Black students had to go to others. Then, in 1954, the United States Supreme Court said this was not constitutional. Many schools had to be changed. One of these was Central High School in Little Rock, Arkansas. Only white students went to Central High at the time.

In September, 1957, Little Rock's school board took action. It planned to integrate every school in the city. But Arkansas Governor Orval Faubus had other plans. Governor Faubus sent National Guard units to Central High. He told them not to let any Black students enter the school. For three weeks, the National Guard turned back the Black students. Then a district court ordered the governor to stop breaking the law. The Black students entered Central High the next school day.

Two days later, President Eisenhower sent army troops to Little Rock to protect the students. Protected by soldiers and, later, by National Guardsmen, eight Black students went to Central High for the rest of the year. The next year, the school board feared there would be violence if it went on with desegregation. It asked the courts to let it put off desegregation for two and a half years. The case went to the United States Supreme Court.

In September, 1958, the Supreme Court decided, by a 9 to 0 vote, that Little Rock should continue to desegregate its schools as planned. The Little Rock school board lost its case. Finally, after years of struggle, the schools in Little Rock, Arkansas, were desegregated.

Skill 5 continued

1. Before 1954:

○ a. President Eisenhower sent army troops
○ b. 17 southern states had laws that separated students by race
○ c. the school board took action
○ d. Little Rock was desegregated

2. At the end of this article it tells us that:

○ a. the Little Rock schools were desegregated
○ b. President Eisenhower sent in troops
○ c. only white students went to Central High
○ d. the United States Supreme Court said segregation was not constitutional

3. According to the article, what happened after the school board's action in September, 1957?

○ a. seventeen states closed their schools
○ b. white and Black students went to school together
○ c. the case went to the Supreme Court
○ d. Little Rock's school board planned to integrate every school in the city

4. What happened two days after Black students entered Central High?

○ a. the Supreme Court said segregation was not constitutional
○ b. President Eisenhower sent army troops to Little Rock
○ c. the Little Rock school board voted
○ d. schools were completely desegregated

TIP:

Use the sequence signal words to help you find the correct answers.

Passage adapted from *Reading with a Focus*, Scope Reading Skills (New York: Scholastic Book Service, 1979), p. 74.

NAME ______________________________ CLASS _______________

COMMUNICATION ARTS TEST 5

Skill 5: Using Words That Signal Sequence

Directions: Read the selection. Fill in the circle next to each correct answer.

From Hunting to Farming

Early people lived by hunting animals and gathering grains. After a tribe had lived in an area for some time, its food supply would begin to dwindle. Then the tribe had to move to new hunting grounds where there was more food.

This way of life caused special problems for the tribes. They were forced to depend on luck, as well as on their hunting skill. If they could find no game, the whole tribe was in danger of starving. And even when the hunters had good luck one day, they were not sure to find game the next time. The tribes moved often because much land was needed to support a few people.

People learned that they could grow their food. At first, the women of the tribe raised patches of wild grain. Later, people discovered that they could plant their own seeds. Farming slowly became a way of life.

As people turned away from hunting to farming, their lives changed. When the food supply became more constant, they no longer moved from place to place. The success of their crops depended partly on the weather, but there were things they could do to help crops grow.

Before, a tribe had had to roam many miles for food. Now, only a small amount of land was necessary to feed the whole tribe. Finally, a tribe could grow in size because farming provided a way to feed people.

1. Before people discovered that they could plant their own seeds, they:

○ a. had good luck
○ b. raised patches of wild grain
○ c. farmed the land
○ d. lived in cities

Skill 5 continued

2. According to this article, early people lived:

○ a. on seeds they grew
○ b. in the forest
○ c. on farms
○ d. by hunting and by gathering grains

3. When a tribe had lived in an area for some time:

○ a. its food supply start to get smaller
○ b. they had good luck
○ c. the weather became tropical
○ d. they moved to a new house

4. After they turned to farming, the tribes:

○ a. hunted animals
○ b. depended on luck to hunt
○ c. began to grow in size
○ d. raised patches of wild grain

Passage from William Liddle, *Reading for Concepts*, Level F, 2nd edition (New York: McGraw-Hill, 1977), p. 105.

Skill 6: Predicting outcomes

PERFORMANCE OBJECTIVE:

Students will be able to:

predict outcomes based on information stated or implied in a reading passage

EXPLANATION:

To predict outcomes, students must be able to:

(1) read and understand passage details
(2) use passage details to anticipate what will happen next

DEVELOPMENT:

ACTIVITY 1

- Have three action pictures ready to show students and hold up one of them. (A daily newspaper is a good source.)
  - Elicit details about the picture and list them on the board.
  - Probe:
    - Think about the details we wrote on the board. What will probably happen based on what you see in the picture?
    - Why do you think this will happen?
    - We call this skill "predicting outcomes."
  - If necessary, reinforce the skill with the remaining pictures.

ACTIVITY 2

- Say:
  - Listen to this paragraph and predict the outcome:

When Irene woke this morning, she found the ground covered with snow. She remembered that she did not have snow tires on the car, but she had to get to work. Her employer was very strict about lateness. She knew that if she was late again she would be docked. The highway was very slippery, and as she approached the intersection, another car skidded in front of her. She slammed on the brakes.

- Ask:

  - What happened next?

- Elicit all possible responses and list them on the board.

- Probe:

  - What story details did you use to predict these outcomes?

ACTIVITY 3

- Say:

  - Sometimes when you take a reading test, you are asked to predict outcomes.

- Write this test paragraph and question on chart paper, or duplicate and distribute them (see Appendix B):

  MIAMI, Dec. 26--Citrus and vegetable growers in Florida, Texas and Louisiana reported damage in the tens of millions of dollars today after a record cold wave hung icicles from golden fruit and turned green vegetable fields brown.

  What will the farmers probably do?

  a. Sell the brown vegetables.
  b. Raise their prices for the crop they can sell.
  c. Sell it as frozen food.
  d. Wait for warm weather.

- Elicit responses and write them on the chart.

- Probe:

  - What story details helped you to make your choice?
  - What are the reasons for your choice?
  - Which answer choice is best? Why?

FOLLOW-UP:

- Distribute Communication Arts Worksheet 6 and follow the directions in the box at the top of the page.

- After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST:

- Distribute and administer Communication Arts Test 6. Follow the testing procedure outlined in the section of this guide called "How to Use This Book."

"Cold Wave" passage from the *New York Times*, December 20, 1983.

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Skill 6: Predicting Outcomes

Directions: Read each paragraph and the questions that follow it. Choose the best answer to each question, and circle the letter for that answer.

Ann loved to dance. Many times as a child she would tire, but she kept practicing. When others were out playing, she learned dance steps. While friends were eating hamburgers, Ann kept to her diet. She worked without much rest preparing for a show. Each of her teachers told her she had talent. She wondered, "When will I get my big chance?" One night after practice, the director of the dance company asked Ann to dance in next month's show.

1. Based on the story, what did Ann probably do next?

   a. said she wasn't ready
   b. accepted immediately
   c. went back to the dance floor to practice a new dance
   d. discussed the offer with her friends

Jessie could never see the purpose of studying for spelling tests. What a waste of time! This afternoon she had more important things to do. She had a 3:30 P.M. interview at the newspaper office in town. She really wanted this part-time job. The interview went well. Jessie was sure she'd get the job. The manager said that he was pleased with her interest in the newspaper business. He said that there was just one other item to be covered. Her smile disappeared as the manager said that he wanted her to take a short spelling test before he gave her the job. Oh, how she wished she had studied for her tests in the past. Her usual grade of C wouldn't be enough to get her the job.

2. Based on the story, what do you think happened next?

   a. she did well on the test
   b. she failed the test
   c. she got the job
   d. she went home to study

Skill 6 continued

When Tanya picked up the phone and heard Tony's voice, she couldn't believe it. For a long time, she had wanted to get to know Tony better. But always, just as he seemed about to ask her out, someone would come along. One time it was Tony's little sister. Another time it was his loudmouth friend, Jack. Finally, Tony solved the problem by calling her from a phone booth.

3. What did Tony probably ask Tanya?

    a. for their homework assignment
    b. for Jack's telephone number
    c. for her telephone number
    d. for a date

4. What did Tanya probably do next?

    a. called Jack
    b. hung up
    c. said yes
    d. called her mother to the phone

One day the Watkins discovered that their dog had fleas--not just a few fleas, but lots of fleas. Marty and Bill decided to see if fleas could really jump. First, while Mr. Watkins was getting ready to bathe the dog, they each caught a flea on the dog. Then, holding the fleas tightly between two fingers, they ran to the bathtub and let the fleas loose. Next, as the fleas started leaping all over, they laughed and argued. Soon the boys had trouble keeping track of where the fleas were. Both fleas were gone. Suddenly the boys felt very itchy.

5. Based on the story, the fleas probably:

    a. jumped on the boys
    b. died
    c. jumped back on the dog
    d. joined the circus

TIP:

Think about all the details in the selection. The details are clues that will help you predict the outcome.

A NEED TO READ: CRITICAL READING, LEVEL B: "Ann" and "Jesse," passages adapted from Sidney J. Rauch and Phillip K. Trocki, pp. 9-10; (c) 1981; The Globe Book Company, Inc.; Used by permission.

"Tanya" passage adapted from Ann Elwood and John Raht, *Points of View* (New York: Globe Book, 1975), p. 10. "Fleas" passage adapted from Joanne Carlisle, *Reasoning and Reading*, Level 2 (Cambridge, MA: Educators Publishing Services, 1983), p. 87.

NAME ______________________________ CLASS ________________

COMMUNICATION ARTS TEST 6

Skill 6: Predicting Outcomes

Directions: Read the selections. Then choose the outcomes from the statements below. Circle the letters of the outcomes you choose.

1. Roy is extremely self-centered and highly competitive. He is very involved in being "number one" at everything he does. Getting 100 percent on an exam pleases him greatly, but he is even happier if he knows that everyone else did poorly. Yesterday, a teammate of Roy's asked him for help in math. Roy will probably:

   a. be glad to help his teammate in math
   b. make some excuse so he won't have to help his teammate
   c. continue to play his number game

2. Heat changes water into vapor. Vapor is a colorless, odorless gas. Rochelle filled a pot with water and put it up to boil. The phone rang and she became involved in a long phone conversation. Suddenly she remembered that she had been boiling water. When she came back into the kitchen, she discovered that the pot:

   a. was empty and scalded
   b. had fallen on the floor
   c. was almost full

3. Sunlight causes plants to grow upward. It forces all of a plant's growing energy to come from the top. the plant will grow toward the sun. This is called tropism. In order to grow strong and to be properly nourished, plants must form sturdy roots. They receive their necessary minerals and water through their roots. If a very young plant is immediately placed in strong sunlight, it will probably:

   a. form strong roots
   b. not form strong roots
   c. grow away from the light

Skill 6 continued

4. Mr. Donovan is very careful about spending money. He tries to get the most for his money and is a great bargain hunter. He is presently having a new home built. The architect has designed a multi-level house. Mr. Donovan is trying to decide whether to use incandescent lighting or fluorescent lighting. Both types of lighting are good, but fluorescent lighting uses up less electricity. Mr. Donovan will probably decide to:

   a. use fluorescent lighting
   b. leave the choice of lighting up to the builder
   c. use multi-level lighting

Exercise adapted from W. Ableman, *Spotlight on Reading: Inference* (New York: Random House, 1978), pp. 16-17.
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Skill 7: Interpreting figurative language in prose and poetry

PERFORMANCE OBJECTIVE: Students will be able to:

answer questions about figurative language in a test passage

EXPLANATION: to answer questions about figurative language, students must:

(1) understand that figurative language conveys ideas that go beyond the literal meaning
(2) recognize figurative expressions in prose and poetry
(3) interpret figurative expressions

DEVELOPMENT:

ACTIVITY 1

. Write the following on chart paper:

Kwamme brought a classmate home to his house after school. They listened to records and had a snack. After his friend left, Kwamme's mother came into his room and said, "Clean up this room. It looks as if a tornado struck!"

. Say:

- Read the story silently as I read it aloud. Try to picture (visualize) what Kwamme's room looks like.

. Ask:

- To what did Kwamme's mother compare his room?
- What is a tornado?
- Why did Kwamme's mother say that his room looked as if a tornado had struck?

. Say:

- Since a tornado did not really strike Kwamme's room, his mother is using the expression "like a tornado struck" to make her meaning clearer, or more vivid, by painting a word picture. This kind of word picture is called "figurative language."

. Write the following story on chart paper, and have students read it:

The thunderstorm struck without warning. Within fifteen minutes, it was raining cats and dogs. The cars on the street began to float away.

- Ask:
  - What example of figurative language can you find in this story?
  - What does "raining cats and dogs" mean?
- Probe:
  - How did you know that "raining cats and dogs" was an example of figurative language?
  - What clues did you use to figure out what the phrase means?
- (Optional) Reinforce this skill with additional examples of familiar figurative expressions.

ACTIVITY 2

- Say:
  - Sometimes a test includes stories with figurative language that you will be asked to identify and understand.
- Write the following on chart paper, or duplicate and distribute it (see Appendix B):

As I walked home, the storm began. First the wind struck me with the force of a prizefighter's fist. Its claws snatched at my clothes as I bent forward resisting its explosive burst of force. Suddenly I could not breathe. I turned my head gasping as it snatched the air from my lungs like a giant vacuum pump. Finally, I succeeded in reaching the house by walking backwards, all the while feeling the wind thump on my back like a thousand horses straining for the finish line.

- Say:
  - Read this paragraph, looking for examples of figurative language.
- Ask:
  - What examples of figurative language did you find in this paragraph?
  - What does the author mean when he uses each phrase?
- Write the examples and their meanings on chart paper. For example:

Figurative Language

Example	Meaning
force of a prize fighter's fist	hard, strong, forceful
claws snatched at my clothes	wind pulled my clothes
a great vacuum pump	gasping for air
like a thousand horses	great force

- Elicit a summary by asking what the chart tells about figurative language. Write the summary on chart paper for display in the classroom.

ACTIVITY 3

- Say:

  - Sometimes a test includes poems with figurative language that you will be asked to identify and understand.

- Write the following poem on chart paper, or duplicate and distribute it (see Appendix B):

Dreams

Hold fast to dreams
For if dreams die
Life is a broken-winged bird
That cannot fly.

Hold fast to dreams
For when dreams go
Life is a barren field
Frozen with snow.

- Say:

  - As I read the poem to you, read along silently, and look for examples of figurative language.

- Read the poem to the class twice.

- Ask:

  - What examples of figurative language did you find in this poem?
  - What does the author mean when he uses each phrase?

- Add the examples and their meanings to the figurative language chart. (See Activity 2.) For example:

Figurative Language

Example	Meaning
life is a broken-winged bird	you won't achieve your dreams
hold fast to dreams	don't give up
life is a barren field	life is empty

- Elicit a summary by asking how the author's use of figurative language added to the meaning of the poem.

FOLLOW-UP:

- Distribute Communication Arts Worksheet 7 and follow the directions at the top of the page.
- After students complete the worksheet, give them feedback and assess their mastery of the skill.

TEST:

- Distribute and administer Communication Arts Test 7. Follow the testing procedure outlined in the section of this guide called "How to use this Book."

"Storm" passage from Henry David Thoreau, *Walden*. "Dreams" poem from THE DREAM KEEPER & OTHER POEMS, by Langston Hughes. Copyright 1932 Alfred A. Knopf, Inc. and renewed 1960 by Langston Hughes. Reprinted permission of Alfred A. Knopf, Inc.

COMMUNICATION ARTS WORKSHEET 7

Skill 7: Interpreting Figurative Language

Directions: Read the selections. Fill in the circle in front of the correct answer for each question.

He was sixty if a day; a little man, with a broad, not very straight back, with bowed shoulders and one leg more bandy than the other, he had that queer twisted-about appearance you see so often in men who work in the fields. He had a nut-cracker face--chin and nose trying to come together over a sunken mouth--and it was framed in iron gray fluffy hair, that looked like a chin strap of cotton-wool sprinkled with coal dust.

1. The phrase "he had a nut-cracker face" means that the man:

○ a. had a strange twisted face
○ b. could crack nuts with his teeth
○ c. picked nuts in the field
○ d. was good looking

2. What was the author talking about when he said "like a chin strap of cotton-wool sprinkled with coal dust"?

○ a. a cotton shirt
○ b. a beard
○ c. coal dust
○ d. a chin strap

3. In this story, "sprinkled with coal dust" means:

○ a. white as snow
○ b. sprinkles on it
○ c. made of coal dust
○ d. patches of black

Communication Arts Worksheet 7: page 2 of 2

Skill 7 continued

My flashlight tugs me
through the dark
like a hound
with a yellow eye.

sniffs
at the edges
of steep places,

paws
at moles'
and rabbits'
holes,

points its nose
where sharp things
lie asleep

and then it bounds
ahead of me
on home ground.

4. How is a flashlight like a hound dog?

○ a. both have lights
○ b. both can point to dangerous places
○ c. both can bark
○ d. both can fall asleep

5. What does the poet mean by "points its nose"?

○ a. sniffs
○ b. comes to a sharp point
○ c. jumps up and down
○ d. directs a beam of light

TIP:

Think about the meaning the author is trying to communicate by reading the words and sentences which surround the figurative expression.

"He Was Sixty" passage from Youth, by Joseph Conrad. Copyright (c) 1976 by Doubleday. Reprinted by permission.

"Flashlight" poem from Judith Thurman, *Flashlight and Other Poems* (New York: Antheneum, 1976).

NAME ______________________________ CLASS ________________

COMMUNICATION ARTS TEST 7

Skill 7: Interpreting Figurative Language

Directions: Read each poem. Fill in the circle in front of the correct answer for each question.

Construction

The house frames hang like spider webs
Dangling in the sun,
While up and down the wooden strands
The spider workers run.
They balance on the two-by-fours,
They creep across the beams,
While down below, the heap of wood,
A spider-stockpile, gleams.
The spider-workers spin the web
And tack it tight with nails.
They ready it against the night.
When all work ends.

1. The poet compares a spider web to:

○ a. a dangling sun
○ b. a wooden strand
○ c. two-by-fours
○ d. house frames

2. In the poem, "the wooden strands" are:

○ a. pieces of wood
○ b. strands of a spiders' web
○ c. electrical wires
○ d. telephone lines

Skill 7 continued

A silver-scaled dragon with jaws flaming red
Sits at my elbow and toasts my bread
I hand him fat slices, and then, one by one,
He hands them back when he sees they are done.

3. In this poem, what is a "silver-scaled dragon"?

○ a. a toaster
○ b. a stove
○ c. a pre-historic animal
○ d. a silver dragon

4. In this poem, "jaws flaming red" means:

○ a. jaws of a dragon
○ b. a red kitchen appliance
○ c. the burner on a stove
○ d. the heating coils of a toaster

'Construction" poem from Patricia Hubbell, *Eight A.M. Shadows* (New York: Antheneum, 1965). "The Toaster" poem by William Jay Smith from May Hill Arbuthnot (Ed.), *The Arbuthnot Anthology* (New York: Lothrop, Lee and Shepard, 1961), p. 107.

Review II: Analyzing and answering test questions: Skills 4-7

Stop and assess students' understanding of test questions and kinds of answers. If necessary, return to previously taught skills, and reteach them using additional instructional materials.

PERFORMANCE OBJECTIVE: Students will be able to:

analyze and answer four types of test questions: fact and opinion, sequence, predicting outcomes, and figurative language

EXPLANATION: to analyze and answer test questions, students must:

(1) recognize and differentiate among various types of test questions
(2) determine the kinds of answers that the test questions require

DEVELOPMENT:

ACTIVITY 1

- Distribute Communication Arts Review Worksheet II.
- Have students read the directions and explain what they are asked to do. Do the first item with the class.
- Ask:
  - What kind of question is this? (predicting outcomes)
  - What key question words helped you decide on the kind of question? (probably go after the party)
  - What kind of an answer must you look for?
- Elicit similar responses for questions 2, 3, and 4. Check students' responses on their worksheets.
- Have students complete the rest of the worksheet independently. Tell them to use what they have learned about fact and opinion, sequence, predicting outcomes, and figurative language questions to help them complete the worksheet.

- Probe students' responses, and use the worksheet to assess students' understanding of fact and opinion, sequence, predicting outcomes and figurative language questions, as well as key question words and the kinds of anwers to look for. If necessary, reteach the skills.

ACTIVITY 2

- Write the headings from the review chart below on chart paper and fill in the left column only.
- Say:
  - We have learned how to identify and answer fact and opinion, sequence, predicting outcomes, and figurative language questions on a test. (Refer to the review chart.) Let's review what we have learned so far.
- Ask:
  - What is the difference between fact and opinion?
  - What key question words signal fact? (numbers)
  - What key question words signal opinion? (think, believe)
  - What kinds of answers should you look for? (statements of facts, I believe, or personal judgment)
- Record students' answers on the review chart. Repeat the same process for sequence, predicting outcomes, and figurative language questions:

Review Chart

Type of Question	Key Question Words	Kind of Answers to Look for
fact and opinion	facts: numbers opinion: I think, I believe, good, better, best, bad, worse, worst, more important than	statements of numbers, names, dates, personal judgments
sequence	beginning, middle, end, first, second, last, before, after, following, what happens	time, dates, steps
predicting outcomes	next, after, following, probably	things that would probably happen, events
figurative language	like, as if	idioms, similies and metaphors, figures of speech, use of quotation marks

COMMUNICATION ARTS REVIEW WORKSHEET II

Skills 4-7

Directions: Read each test question. Use your test-taking skills to decide what type of question it is. Complete the review chart below.

Test Questions

1. Where will Mr. Kamala probably go after the party?
2. In this story, the words "as high as a kite" mean ________.
3. Which of the following states a fact?
4. In the science experiment, what came after step two?
5. What does the author mean by "the night was as starless as a vacant stare"?
6. Does the author give an opinion in the following statement?
7. What will the teacher do as a result of the test?
8. Before going to bed, what did Henry do?
9. What will happen next?
10. After the parade, the school band probably __________.

Type of Question	Key Question Word	Kind of Answers to Look for
1. predicting outcomes	probably, go after	clues that tell you what probably happened next
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10		

COMMUNICATION ARTS REVIEW TEST II

Practice Test: Skills 4-7

Teacher:

This test is administered in one session. Allow 25 minutes for students to complete the test.

. Distribute Communication Arts Review Test II, "Practice Test: Skills 4-7."

. Distribute the answer sheet that follows the practice test.

. Read the directions to students as they read along silently. Be sure that students understand what to do.

. Do sample A with students. Demonstrate how to fill in the oval next to the correct answer choice, and answer any questions students may have.

Say:

- Find sample A.
- Read sample A. Then read the question below. Find the best answer to the question. On your answer sheet find the row of spaces next to A and fill in the space that has the same letter as the answer you chose. Then STOP.

. Ask:

- What answer did you choose?
- What kind of question is this? (cause and effect)
- Did any key words help you find the answer? (why = cause)
- How did they help?

. Say:

- The correct answer is b, it is too heavy, because it answers the question "Why can't the ostrich fly?"
- Complete the rest of the items on the test. If you are not sure of an answer, use the test-taking skills you have learned. Whenever you see GO ON, go to the next page. Stop when you see the word STOP.
- You have 25 minutes to complete the test.

. Write the time on the board and remind students to use the tips they have learned for using time effectively on a test. (See Mechanics Skill 3.)

. Review the test with students. Use the answer matrix in the appendix to help you assess students' mastery of the three types of test questions.

. If necessary, reteach skills students have had difficulty answering correctly.

Grade 6
NAME ______________________________ CLASS ________________

COMMUNICATION ARTS REVIEW TEST II

Practice Test: Skills 4-7

Directions: Read each passage. Then answer the questions that follow it. Choose the best answer for each item. Fill in the correct oval on your answer sheet.

SAMPLE A

Birds are interesting animals. They live in a wide variety of environments. There are very small birds like the hummingbird and very large birds like the ostrich.

The ostrich is so heavy that it cannot fly. It weighs about 300 pounds and can run as fast as a horse.

Why can't the ostrich fly?

a. It runs too fast.
b. It is too heavy.
c. It is very strong.
d. It is very large.

STOP

My happiness depends on an electric appliance
And I do not mind giving it so much credit
With life in this city being what it is
Each person separated from friends
By a tangle of subways and buses
Yes my telephone is my joy
It tells me that I am in the world and wanted
It rings and I am alerted to love or gossip
I go comb my hair which begins to sparkle
Without it I was like a bear in a cave
Drowsing through a shadowy winter
It rings and spring has come
I stretch out and amble out into the sunshine
Hungry again as I pick up the receiver
For the human voice and the good news of friends

1. In this poem the poet says, "I was like a bear in a cave." This means the poet feels:

    a. alone
    b. like an animal
    c. happy
    d. hungry

2. The best title for this poem is:

    a. Happiness
    b. Electrical Appliance
    c. Friends
    d. The Telephone

3. "I go comb my hair which begins to sparkle" means the poet feels:

    a. drowsy
    b. joyful
    c. sad
    d. alert

4. "Hungry again as I pick up the receiver" means the poet wants to:

    a. eat
    b. talk to friends
    c. go out into the sun
    d. get up and stretch

GO ON

The only time we didn't see the old woman was on very rainy days. All the other times, she'd sit out on her porch in her shiny wheelchair. She must have been one hundred years old, and her face was etched by time. Sam and I weren't afraid of her exactly. I mean, we had always known her, and she always talked to us.

We walked by this time, and there she was.

"Where are you two boys going at this time of day?" she shouted. She always talked loud like that. "Playing hooky I suppose. I'll just call up the principal and tell him!" She put her hands on the wheels of her chair, and whizzed it around so she was sideways to us.

"Aw, it's Saturday, Mrs. Dupree," said my big brother.

"Makes no difference if it's Saturday," she said glowering at us. "I wonder if your father knows where you are?"

"Mrs. Dupree, we've been going to town by ourselves since we've been this high."

"Don't you lie to me!" she yelled.

My big brother said she must not be very sick if she can holler like that.

When my father was with us, and we passed her house, he would sweep off his hat, wave gallantly to her and say, "Good evening, Mrs. Dupree! You look like a picture this evening."

I never heard him say like a picture of what. He would tell her the news and would say he hoped with all his heart she'd have a good day tomorrow. He would return his hat to his head, swing me to his shoulders right in front of her, and we would go home in the twilight. It was times like these when I thought my father, who hated guns and had never been to any wars, was the bravest man who ever lived.

5. In this story "her face was etched by time" means that her face was:

    a. young
    b. smooth
    c. carefree
    d. lined

GO ON

6. In this story, "like a picture" means:

   a. hanging on a wall
   b. pleasant to look at
   c. newly painted
   d. tired

7. In the future, the boys will probably:

   a. see Mrs. Dupree again
   b. go to school on Saturday
   c. go another way to school
   d. holler at Mrs. Dupree

8. What is this story mainly about?

   a. an unusual neighbor
   b. going to school
   c. a Saturday walk
   d. a father's courage

9. Which of the following best describes the father?

   a. rude
   b. warm-hearted
   c. fearful
   d. dull

GO ON

It was just by chance that I was in Waco, Texas, on the day the tornado struck. The Amicable Life Building needed a new set of automatic doors, so Roy Miller and I had driven over from Dallas to install them.

Although it was only afternoon, the sky was like ink.

"You ever seen weather like this?" I asked Roy.

"No," he said. He looked up at the threatening dark sky and shook his head. "It's scary."

We began working on the doors, since it seemed like a good idea to get them up as fast as we could. All of a sudden it began to rain.

After the rain began there was an odd roaring sound. The wind sounded like a speeding train. It was overwhelming, like nothing I'd ever experienced.

I tried to get inside the door of the Amicable Building, but the wind was so strong that I couldn't move.

Now I could see the ugly, swirling tip of the tornado. A second later the tornado tore away the top four floors of a nearby building.

At last the tornado moved away to the southwest, then Roy and I could see that the whole side of town had been destroyed. Suddenly we heard a cry for help.

10. What happened just after the rain began?

    a. The men arrived in Waco, Texas.
    b. There was an odd roaring sound.
    c. The tornado moved away.
    d. The men began to install the doors.

11. What happened at the end of the story?

    a. The men heard a cry for help.
    b. The men heard the wind begin to roar.
    c. The men arrived in Waco.
    d. The men saw the building destroyed.

12. Based on the story, what do you think the men did next?

    a. went right to sleep
    b. finished installing the doors
    c. helped people who were hurt
    d. drove southwest

13. In this story the words "sounded like a speeding train" mean:

    a. silent
    b. tinkling
    c. loud
    d. musical

14. In this story the words "like ink!" mean:

    a. cloudy
    b. dark
    c. pretty
    d. clear

15. How do you think Roy and his friend felt during the tornado?

    a. comfortable
    b. powerful
    c. sleepy
    d. scared

GO ON

Directions: Read the passages below. Then read the sentences that follow. Decide whether each sentence is a fact or an opinion. Fill in your choice on the answer sheet:

When students found out that there would be a dress code at school, two of them wrote the following letters:

Letter 1

I think a dress code is a good idea. When students have to dress alike, they don't have to worry about what to wear in the morning. Also, the students who have better clothes won't be showing them off all the time. I also think it looks nice. We already have to dress up on assembly days. Besides, we all go to the same school, and by wearing the same clothes, it's like being on one team. It shows we're students and that we go to a special school.

Letter 2

The idea of a dress code really upsets me. These days we are losing our freedom more and more. Most of us are numbers already, class numbers, grade numbers, social security numbers--just numbers. There are so many students in the school, that with all of us wearing the same thing, no one will be able to tell us apart. Clothes are a way of expressing your personality. If we can't do that simple thing, we might as well be in jail as in school. Prisoners wear uniforms, too. Besides, I don't want to wear a skirt and jacket, since I prefer wearing jeans and being comfortable.

16. A dress code is a good idea.

    a. fact
    b. opinion

17. Prisoners wear uniforms.

    a. fact
    b. opinion

18. I think wearing jeans and being comfortable are more important then a dress code.

    a. fact
    b. opinion

GO ON

19. We already have to dress up on assembly days.

    a. fact
    b. opinion

20. Being in school is the same as being in jail.

    a. fact
    b. opinion

STOP

Poem "Telephone" from Edward Field, *Stand Up Friends With Me* (New York: Grove Press, 1963). "Mrs. Dupree" and "Dress Code" passages adapted from *Strategies for Achievement in Reading,* Level 6 (New York: Community School District 6). "Tornado" passage adapted from Ira Baden, *Man Against Nature* (New York: Harper and Row, 1954), pp. 48-60 as condensed in Don L. Wulffson, *Facts and Fantasies,* Language Skills through Reading (New York: Globe Book, 1983, pp. 3-4.

COMMUNICATION ARTS REVIEW TEST II

Answer Sheet

LAST NAME	FIRST NAME	MI

SAMPLE A

A ⓐ ⓑ ⓒ ⓓ

1 ⓐ ⓑ ⓒ ⓓ
2 ⓐ ⓑ ⓒ ⓓ
3 ⓐ ⓑ ⓒ ⓓ
4 ⓐ ⓑ ⓒ ⓓ
5 ⓐ ⓑ ⓒ ⓓ
6 ⓐ ⓑ ⓒ ⓓ
7 ⓐ ⓑ ⓒ ⓓ
8 ⓐ ⓑ ⓒ ⓓ
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10 ⓐ ⓑ ⓒ ⓓ

11 ⓐ ⓑ ⓒ ⓓ
12 ⓐ ⓑ ⓒ ⓓ
13 ⓐ ⓑ ⓒ ⓓ
14 ⓐ ⓑ ⓒ ⓓ
15 ⓐ ⓑ ⓒ ⓓ

16 ⓐ ⓑ
17 ⓐ ⓑ
18 ⓐ ⓑ
19 ⓐ ⓑ
20 ⓐ ⓑ

Skill 8: Analyzing vocabulary test questions

INTRODUCTION:

The acquisition of rich and extensive speaking, reading, and writing vocabularies enables students to be better readers and contributes to success on any type of reading test. Providing a language experience approach to reading in the classroom is an essential component of every reading program and helps prepare students for answering synonym, antonym, and multimeaning word questions on tests.

Use a variety of approaches to enhance students' acquisition of new vocabulary:

- Develop a readiness for vocabulary by involving students in motivational activities that encourage the acquisition and utilization of new vocabulary.
- Introduce new vocabulary and concepts in meaningful contexts--never in isolation.
- Teach, apply, and reinforce new words and concepts every day, in all subject areas.
- Provide students with many opportunities to use new vocabulary in activities such as writing, vocabulary games, cloze passages, practice test items, and content-area activities.
- Use a language experience approach to teach vocabulary, including experience charts, word lists (charts and mobiles of synonyms and antonyms), and student-made dictionaries and books.
- Capitalize on students' experiences as a foundation for language development. For example, build lessons around class trips, holidays, birthdays, and cultural days such as UN Day and Martin Luther King Day.
- Provide a rich and stimulating classroom environment that reflects students' involvement in language development. For example, display student work such as stories, poetry, charts, journals, and newspapers in the classroom.

- Develop a class theme for vocabulary enrichment. For example, base vocabulary enrichment around a theme such as "space."

- Use content area lessons as springboards for vocabulary development and enrichment. For example, during a science lesson on weather, have students find synonyms and antonyms for weather-related words. During a communication arts lesson have students develop a list of mood words such as anxious, disappointed, elated, joyful, miserable, discouraged.

PART 1: WORDS IN PHRASES--SYNONYMS

PERFORMANCE OBJECTIVE

Students will be able to:

recognize words on a vocabulary test that have the same meaning

TEST FORMAT

Directions: Read the phrase. Look at the underlined word and think about the meaning. Then read the words below it. Find the word or phase that means the same or about the same as the underlined word.

capture the robber	shiny penny
○a. hide	○f. hard
○b. thief	○g. green
○c. catch	○h. copper
○d. lead	○j. bright

STRATEGIES

- Teach students to:

  (1) read the phrase
  (2) note the underlined word
  (3) read the choices (distractors)
  (4) select the word with the same or about the same meaning

- Acquaint students with ways test items are written that may lead them to select an incorrect answer.

  - Distractors may have a beginning, middle, or ending which is the same as the stimulus word. For example:

    a small village

    a. valley
    b. garage
    c. town
    d. house

- Distractors may sound like the stimulus word. For example:

  to choose

  a. pick
  b. have
  c. give
  d. lose

- Distractors may be associated with the stimulus word. For example:

  a holiday feast

  a. banquet
  b. trip
  c. food
  d. famine

- Distractors may be related to another word in the phrase (a word not underlined). For example:

  large elephant:

  a. zoo
  b. huge
  c. gray
  d. animal

PART 2: WORDS IN PHRASES--ANTONYMS

PERFORMANCE OBJECTIVE Students will be able to:

recognize words on a vocabulary test that have opposite meanings

TEST FORMAT Directions: Read the phrase. Look at the underlined word and think about the meaning. Find the word that means the opposite of the underlined word.

loud music	a few buildings
○a. happy	○ a. numerous
○b. sad	○ b. skyscrapers
○c. noisy	○ c. new
○d. soft	○ d. old

STRATEGIES

. Teach students to:

(1) read the phrase
(2) note the underlined word (stimulus word)
(3) read the choices (distractors)
(4) think of the word meaning and its opposite meaning
(5) select the word with the opposite meaning

. Acquaint students with ways items are written that may lead them to select an incorrect answer. (See also the strategies for synonyms.)

- Distractors may include a synonym. For example:

remain in school

a. building
b. leave
c. repeat
d. stay

PART 3: WORDS IN A SENTENCE--MULTIMEANING WORDS

PERFORMANCE OBJECTIVE

Students will be able to:

select the sentence that correctly illustrates the meaning given in the test for a particular vocabulary word

TEST FORMAT

Directions: Read the definition next to the number (or word, if given). Then read the three sentences. Find the sentence in which the underlined word means the same as the definition given.

place to go swimming

○ a. We dived into the pool and splashed around.
○ b. If we pool our money, we can buy more food.
○ c. You have to be careful of the table cover when you play pool.

STRATEGIES

. Teach student to:

(1) read the definition
(2) read the sentences
(3) note the underlined word
(4) substitute the definition for the underlined word in the sentences

(5) select the correct sentence (the one that makes "sense")
(6) mark the appropriate oval on the answer sheet
(7) where appropriate, use context clues to help select the correct answer. For example:

break: to crack

a. Don't break the law.
b. They took a coffee break.
c. Mother told us to wash the dishes, not to break them. (distractor includes a contrast context clue)

. Teach students to use their knowledge of parts of speech to help them eliminate wrong answers. For example:

slip: a mistake

a. You can slip on the ice.
b. She wore a slip under her dress.
c. His slip gave away the answer.

Distractor a can be eliminated because "slip" is used as a verb.

train: to teach

a. The train was on schedule.
b. The bride's train was made of lace.
c. The man will train the dog.

Distractors a and b can be eliminated because they both use "train" as a noun.

PART 4: WORDS IN A PASSAGE--SYNONYMS

PERFORMANCE OBJECTIVE

Students will be able to:

select the best meaning for a vocabulary word embedded in a test passage

TEST FORMAT

Directions: Read the passage and answer the question that follows.

In the early 1930s, the biggest fad, popular practice or hobby, was marathon dancing. Couples competed against each other to see who could dance the longest until they dropped out because of fatigue. Some couples did not last more than a few hours, while others endured days and weeks. After a few days of dancing, contestants often became edgy, and arguments, disagreements, or altercations broke out. They kept going because they were destitute. They needed the prize money to pay bills or buy things they needed. They couldn't get jobs and had already used up their savings.

In this passage the word altercations means:

○ a. dances
○ b. prizes
○ c. arguments
○ d. fads

STRATEGIES

- Instruct students to use their knowledge of context clues to help them understand the meanings of unfamiliar words in a test passage. For example, to find the meaning of "altercations," students can use the rest of the sentence, "arguments, disagreements," as a clue to a synonym for the vocabulary item.

- Review with students the five types of context clues and give them practice in using context to get the meaning of unfamiliar words. This skill will help students with vocabulary items and enhance their ability to understand the passage.

Types of context clues	Example from the passage
direct explanation	fad
words in a list	altercations
comparison or contrast	endured
summary	destitute
experience	fatigue

"Fads" passage from Sharon Belshaw and Michael Goodman, *Vocabulary Improvement*, Scope (New York: Scholastic Book Services, 1980), p. 25.

COMMUNICATION ARTS TEST 8

Vocabulary Practice Test

Teacher:

Allow 20 minutes for students to complete this test.

. Distribute Communication Arts Test 8, "Vocabulary Practice Test."

. Distribute the answer sheet that follows the practice test.

. Say:

- This test will show if you can recognize words that have the same meaning, words that have opposite meanings, and multimeaning words.
- For items 1-10, you are to find the word or phrase that means the same, or about the same, as the underlined word. For items 11-20, you are to find the word that means the opposite of the underlined word. For items 21-25, read the definition, and then read the three sentences which follow the definition. Find the sentence in which the underlined word means the same as the definition.

. Be sure students understand what to do.

. Say:

- Find sample A in the box.
- Read the directions to yourself as I read them aloud:

For sample A, find the word that means the same, or about the same, as the underlined word. Fill in the correct oval on your answer sheet.

. Ask:

- What word is underlined? (ragged)
- What word means the same as "ragged"?

. Say:

- The correct answer is c, shabby.

. Probe both correct and incorrect answers. Be sure students understand how to answer sample A.

. Allow 20 minutes for students to complete the test. Write the time on the board, and remind students to use the tips they have learned for using time effectively on a test. (See Mechanics Skills 3.)

. Review the test with students. Use the answer key in the appendix to help you do an item analysis. Take note of individual and group problem areas. If necessary, reteach key vocabulary concepts and give daily review and practice in synonyms.

- Say:

  - Find sample B in the box.
  - Read the directions to yourself as I read them aloud:

    For sample B, find the word that means the opposite of the underlined word. Fill in the correct oval on your answer sheet.

- Ask:

  - What word is underlined? (moist)
  - What word is the opposite of moist?

- Say:

  - The correct answer is d, dry.

- Probe both correct and incorrect answers. Be sure students understand how to answer sample B.

- Say:

  - Find sample C in the box.
  - Read the directions to yourself as I read them aloud.

    Read the definition. Then read the three sentences which follow the definition. Find the sentence in which the underlined word means the same as the definition. Fill in the correct oval on your answer grid.

- Ask:

  - What is the definition given in sample C? (go ahead)
  - Which sentence uses the word "pass" to mean go ahead?

- Say:

  - The correct answer is c, pass.

- Probe both correct and incorrect answers. Be sure students understand how to answer sample C.

- Say:

  - Complete items 1-25. Be sure to read the directions before you begin each section. Use what you know about answering vocabulary test questions to help you. Whenever you see GO ON, go to the next page. When you see STOP you have finished this test.

NAME ______________________________ CLASS ________________

COMMUNICATION ARTS TEST 8

Vocabulary Practice Test

Directions: For sample A, find the word that means the same, or about the same, as the underlined word. Fill in the correct oval on your answer sheet.

SAMPLE A

ragged sleeve

a. neat
b. raglan
c. shabby
d. short

Directions: For sample B, find the word that means the opposite of the underlined word. Fill in the correct oval on your answer sheet.

SAMPLE B

moist air

a. damp
b. hot
c. wet
d. dry

Directions: Read the definition. Then read the three sentences which follow the definition. Find the sentence in which the underlined word means the same as the definition. Fill in the correct oval on your answer sheet.

SAMPLE C

go ahead

a. Please pass me the butter.
b. He needs a pass to get to class.
c. I ran faster in order to pass the leader.

STOP

Directions: For items 1-10 choose the word that means the same or about the same as the underlined word. Fill in the correct oval on your answer sheet.

1. feeble person

   a. able
   b. weak
   c. rich
   d. powerful

2. miniature car

   a. fast
   b. luxury
   c. small
   d. mechanical

3. expand the library

   a. explore
   b. close
   c. enlarge
   d. enclose

4. vivid

   a. dull
   b. colorless
   c. bright
   d. big

5. caused a racket

   a. silence
   b. commotion
   c. race
   d. disaster

6. ancient building

   a. angled
   b. beautiful
   c. aged
   d. new

7. expensive freight

   a. home
   b. clothes
   c. cargo
   d. friend

8. unravel the mystery

   a. understood
   b. revolve
   c. join
   d. explain

9. vicious animals

   a. trained
   b. gentle
   c. fierce
   d. useful

10. combine ingredients

    a. separate
    b. add
    c. mix
    d. chew

GO ON

Directions: For items 11-20 choose the word that means the opposite of the underlined word. Fill in the correct oval on your answer sheet.

11. quiet room

a. silent
b. noisy
c. busy
d. closed

12. genuine money

a. real
b. authenic
c. counterfeit
d. discover

13. imaginary character

a. necessary
b. novel
c. real
d. make-believe

14. deposit the money

a. earn
b. hide
c. lose
d. withdraw

15. departure of the train

a. engine
b. schedule
c. arrival
d. travel

16. essential services

a. unnecessary
b. necessary
c. important
d. urgent

17. respond to a call

a. relay
b. telephone
c. answer
d. ignore

18. advance the troops

a. retreat
b. kill
c. battle
d. play

19. frequent visitor

a. constant
b. many
c. rare
d. important

20. discard old books

a. cut
b. buy
c. cold
d. keep

GO ON

Directions: Read the definition. Then read the three sentences which follow the definition. Find the sentence in which the underlined word means the same as the definition. Fill in the correct oval on your answer sheet.

21. the choicest of anything

    a. The restaurant served only the pick of market offerings.
    b. Pick out the flavor you want, and I'll order the ice cream.
    c. He decided to pick the lock when he misplaced the key.

22. speed at which something moves

    a. Someday, people will rate him as a great singer.
    b. We pay the regular rate unless we get something extra.
    c. The car went at the rate of 60 miles an hour.

23. dead

    a. We had dinner late last night, because we weren't hungry.
    b. The late Mr. Brown was a member of many clubs.
    c. How much damage was done by the late storm?

24. permit

    a. You need a pass before you enter that part of the building.
    b. If I study hard tonight, I will pass tomorrow's test.
    c. The cowboys headed the rustlers off at the pass.

25. moderate; middle quality

    a. The medium tried to communicate with the spirits.
    b. Boiled eggs can be hard, medium, or soft.
    c. The medium of exchange used in the United States is the dollar.

STOP

Items 21-25 from *Strategies for Achievement in Reading,* Level 6 (New York: Community School District 6).

COMMUNICATION ARTS TEST 8

Answer Sheet

LAST NAME	FIRST NAME	MI

SAMPLES

A ⓐ ⓑ ⓒ ⓓ
B ⓐ ⓑ ⓒ ⓓ
C ⓐ ⓑ ⓒ

PART 1--SYNONYMS

1 ⓐ ⓑ ⓒ ⓓ
2 ⓐ ⓑ ⓒ ⓓ
3 ⓐ ⓑ ⓒ ⓓ
4 ⓐ ⓑ ⓒ ⓓ
5 ⓐ ⓑ ⓒ ⓓ
6 ⓐ ⓑ ⓒ ⓓ
7 ⓐ ⓑ ⓒ ⓓ
8 ⓐ ⓑ ⓒ ⓓ
9 ⓐ ⓑ ⓒ ⓓ
10 ⓐ ⓑ ⓒ ⓓ

PART 2--ANTONYMS

11 ⓐ ⓑ ⓒ ⓓ
12 ⓐ ⓑ ⓒ ⓓ
13 ⓐ ⓑ ⓒ ⓓ
14 ⓐ ⓑ ⓒ ⓓ
15 ⓐ ⓑ ⓒ ⓓ
16 ⓐ ⓑ ⓒ ⓓ
17 ⓐ ⓑ ⓒ ⓓ
18 ⓐ ⓑ ⓒ ⓓ
19 ⓐ ⓑ ⓒ ⓓ
20 ⓐ ⓑ ⓒ ⓓ

PART 3--MULTIMEANING WORDS

21 ⓐ ⓑ ⓒ
22 ⓐ ⓑ ⓒ
23 ⓐ ⓑ ⓒ
24 ⓐ ⓑ ⓒ
25 ⓐ ⓑ ⓒ

Mathematics Skills

Skill 1: Locating and using key words

PERFORMANCE OBJECTIVE:

Students will be able to:

- locate key words in a problem
- use key words to determine the operation needed to solve a problem

EXPLANATION:

- Key words are an important element in solving a problem. The student learns to locate the key words and determines which operation the key words suggest in relation to solving the problem. This technique is helpful throughout the year as a method used in solving word problems for addition, subtraction, multiplication, and division.

DEVELOPMENT:

- Write the following word problem on the chalkboard:

  During their vacation, Carol's family rode 75.5 miles on Sunday and 100.3 miles on Monday. How many miles did they travel in all?

- Read the problem aloud with the students.

- Say:

  - In this word problem there are special code words that help us solve the problem.
  - How many miles did Carol's family travel on Sunday? (75.5)
  - How many miles did they travel on Monday? (100.3)
  - What do we want to know? (How many miles did they travel in all?)

- Underline the words "in all," then say:

  - The code words "in all" are special words, or key words which help us figure out how to solve this problem.
  - What operation do the words "in all" tell us to use? (In this case we would use addition.)
  - The words "in all" are a signal to select addition as the correct operation.
  - I am going to give you some other problems which we will do together. We will find the key words that help us solve problems.

- Distribute Mathematics Worksheet 1. Ask the students to look at their worksheets, then say:
  - We are going to locate key words in each problem and list them on the chalkboard.
- Draw the following chart on the chalkboard:

Key words	Operations

- Ask:
  - What is this problem about? (cost of tennis rackets)
  - How much did Pete pay? ($18.65)
  - How much did Katy pay? ($13.82)
  - What does the problem ask you to find? (how much more Pete paid for his racket)
- Ask the students to underline the part of the problem that tells what they have to find, and to circle the key words that tell how to solve the problem. (how much more?)
- Write the key words and operations on the chalkboard chart.
- Continue the procedure using as many problems as necessary before asking students to continue independently.
- As you develop the chart notice that some key words are the same for both addition and multiplication. Call attention to words that appear in both addition and multiplication. Assist students in determining which operation is indicated.
- Continue this procedure with your students on a permanent chart displayed in your classroom, adding new examples as you do additional word problems.

FOLLOW-UP:

- For additional practice in locating and using key words ask students to make up their own problems.
- Have students begin to write questions utilizing the key words from the chart developed during the lesson. Other key words will be discovered as students become experienced in creating problems.
- Ask students to voluntarily share their new problems with other members of the class.
- Place a selection of these student-created problems on a classroom bulletin board for sharing and display.

TEST:

Duplicate and distribute Mathematics Test--Lesson 1. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

- Identification of the key word or words will assist the student in narrowing the answer choices.
- The student must be able to translate the key word or words into the correct operation in order to complete the question.
- For example, in Question 1, the key word "each" is given in answer choices (d), and (e). The correct choice (d) cannot be selected until the operation (division) is identified.
- Note the different meaning of the key words "in all" in question 3.
- Allow students to discuss and explain their answer selections to their classmates.

ADDITIONAL TEST ITEMS:

The following test items may be used with this skill:

- Test 6.01 Question 14
- Test 6.02 Questions 2, 3, 5
- Test 6.03 Questions 2, 4
- Test 6.04 Questions 13, 14, 15, 16, 25, 26, 27
- Test 6.06 Questions 21, 22, 23, 24

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS WORKSHEET 1

Skill 1: Locating and Using Key Words

Directions: Locate and circle the key words in each problem. Write the symbol for the operation you would use to solve the problem.

1. Pete paid $18.65 for his tennis racket. Katy paid $13.82. How much more did Pete pay for his racket? ________

2. George Blanda scored 2,002 points during his 26 season football career. How many points did he average each season? ________

3. A wholesaler filled 5,550 Halloween packages with 1,100 candy corns in each package. How many candy corns were used in all? ________

4. Nicole went shopping for winter clothes. She bought a coat for $231.99 and boots for $29.95. What was the total amount she spent? ________

5. Geraldo bought 24 packages of crayons. He spent $25.20. How much did each package cost? ________

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS TEST LESSON 1

Skill 1: Locating and Using Key Words

Directions: Read the problems. Choose the answer that names the key words and correct operation for solving the problem.

1. Twenty five class pictures were delivered. The bill was $18.75. How much did each picture cost?

○ a. how much--add
○ b. each--subtract
○ c. how much--subtract
○ d. each--divide
○ e. each--add

2. Tanya weighs 72 pounds. Her father weighs 236 pounds. How much more does her father weigh?

○ f. more--add
○ g. more--multiply
○ h. how much--subtract
○ i. how much--add
○ j. more--subtract

3. Anthony collected 1,250 bottle caps last week and 1,368 bottle caps this week How many bottle caps did he collect in all?

○ a. in all--multiply
○ b. how many--add
○ c. in all--add
○ d. how many--subtract
○ e. how many--divide

4. The school cafeteria serves 3,290 lunches in one week. What is the average number of lunches served in 5 days?

○ f. average--add
○ g. serve--subtract
○ h. serve--divide
○ i. average--divide
○ j. average--multiply

TIP: The key word will help you to determine the operation needed to solve the problem. Remember, read carefully because some key words are the same for both addition and multiplication.

Skill 2: Converting word problems into equations

PERFORMANCE OBJECTIVE:

Students will be able to:

convert word problems into equations.

EXPLANATION:

In a word problem there are numbers and key words which the students must isolate and convert into an equation to solve the problem. It is important for students to extract the numbers and key words from the problem and "translate" them into a number sentence which will result in a correct solution.

DEVELOPMENT:

. Write the following word problem on the chalkboard:

> 2,789 people are attending an outdoor concert.
> It begins to rain and 586 people leave the concert.
> How many people remain at the concert?

. Ask the following questions:

- What do we want to know? (how many people remain at the concert)
- What information do we have? (2,789 people attended; 586 people left)
- What are the key words that tell us how to solve the problem? (how many people remain)
- What must we do to solve the problem? (subtract)
- What number sentence can we use to solve the problem using subtraction? ($2789 - 586 = \square$)

. Write the following equations on the chalkboard:

$2,789 - 586 = \square$
$568 + 2,789 = \square$
$2,789 + 586 = \square$

. Ask:

- Which number sentence shows us how to solve the problem? Why? ($2,789 - 586 = \square$ is the correct number sentence because the key words "How many people remain" tell us to subtract. The other number sentences tell us to add.)

- Ask the students to solve the problem and label the answer: 2,789 - 586 = 2,203 people.

- Erase the original problem and write the following problem:

  2,789 people arrived early at an outdoor concert.
  586 people came just before the concert started.
  How many people in all attended the concert?

- Have a student read the new problem.

- Ask the following questions:

  - What do we want to know? (how many people attended the concert)
  - What are the key words which tell us how to solve the problem? (how many people in all)
  - What must we do to solve this problem? (add)
  - What number sentence can we use to solve the problem? (2,789 + 586 = □)

- Point to the number sentences on the chalkboard. Elicit that 2,789 + 586 or 586 + 2,789 are correct number sentences because the key words "in all" tell us that we must add.

- Say:

  581 + 2,789 and 2,789 + 586 are both correct because the order in which we add the addends does not affect the sum.

FOLLOW-UP:

- Duplicate and distribute Mathematics Worksheet 2. Utilize the following question format in order to guide students through the worksheet.

  - What do we want to know?
  - What information do we have?
  - What are the key words which tell us how to solve the problem?
  - What must we do to solve the problem?
  - What number sentence can we use to solve the problem?

- Ask students if there is an alternative way to solve each problem. In question 1, for example: $7.75 + $9.39 = □ is as acceptable a number sentence as $9.39 + $7.75 = □ .

- Ask students to recreate the word problem by looking at the number sentence.

- This task can serve as a checking device if the number sentence has been correctly expressed.

TEST:

Duplicate and distribute Mathematics Test--Lesson 2. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

Isolating the numbers from the problem is only the beginning of the process of converting word problems into equations. As seen in the previous lesson, identification of key words is essential. By combining the essential numbers and an appropriate operation, students can then set up a possible number sentence to solve the problem. Students should be aware of the "realism" of an answer.

For example, when talking about "pages...to complete" as in question 1, only one answer (d) shows a true relationship between the total number of pages and the number of pages read. The difference between these two numbers will be the number of pages to be completed. Have students discuss the incorrect answer choices also. This mechanism will clarify student reasoning processes.

ADDITIONAL TEST QUESTIONS:

The skill of converting word problems into equations may be utilized with the following test questions:

- Test 6.01 Questions 17, 18, 19, 20
- Test 6.03 Questions 17, 18, 19, 20
- Test 6.04 Questions 13, 14, 15, 16, 25, 26, 27
- Test 6.06 Questions 21, 22, 23, 24

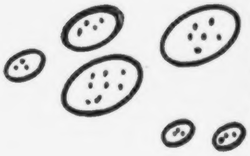
MATHEMATICS WORKSHEET 2

Skill 2: Converting Word Problems into Equations

NAME:______________________________CLASS:__________DATE:________

Tom bought a belt for $7.75 and a shirt for $9.39. What was the total cost?

Mrs. Smith placed 9 dozen cookies in a tin. How many cookies did she place in the tin?



Gary bought 236 old baseball cards at a flea market. He put them into stacks of 15. How many stacks of cards did he have? How many were left over?

Mary spent $\frac{1}{2}$ of her allowance for snacks and $\frac{1}{8}$ of her allowance for a book. What fraction of her allowance did she spend?

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS TEST--LESSON 2

Skill 2: Converting Word Problems into Equations

Directions: Choose the number that will solve the problem. Fill in the circle next to the correct answer.

1. Pedro read 389 pages of a 976 page book. How many pages does he still have to read to complete the book?

○ a. □ - 389 = 976
○ b. 389 - 976 = □
○ c. □ - 976 = 389
○ d. 976 - 389 = □
○ e. 389 x 976 = □

2. Ellen found $5.00. Her father gave her 3 times that amount as a birthday gift. How much did her father give her?

○ f. 15 x 3 = □
○ g. 5 x 3 = □
○ h. 5 x □ = 3
○ j. 3 x □ = 5
○ k. 3 x 15 = □

3. 45% of the people who work in New York City ride the subway. If 540,000 people work there, how many ride the subway?

○ a. 540,000 x 4.5 = □
○ b. □ x 45 = 540,000
○ c. 45 x 540,000 = □
○ d. .45 x 540,000 = □
○ e. □ x 540,000 = 4.5

4. A stadium can hold 4,378 people. There are 3,198 people seated. How many more people can be seated?

○ f. 4378 + 3198 = □
○ g. 4378 x 3198 = □
○ h. 4378 - 3198 = □
○ j. 4378 - 3198 = □
○ k. 3198 + 4378 = □

TIP: Use the key words to help you write your equation.

Skill 3: Eliminating unreasonable answers while finding reasonable answers

PERFORMANCE OBJECTIVE:

Students will be able to:

find reasonable answer choices while eliminating unreasonable answer choices to solve problems.

EXPLANATION:

. Answers can be viewed as either reasonable or unreasonable.

. This narrowing of answer choices assists the student in focusing on remaining answers. For example, in the problem 32 x 3 = ☐ the student can eliminate all answer choices that do not have 6 in the ones place. All answer choices that do have a 6 in the ones place are still possible answers. Further examination of those remaining will lead to a final answer.

. This approach can be used with addition, subtraction, multiplication, and division problems periodically throughout the year.

DEVELOPMENT:

. Write the following on the chalkboard:

$$\begin{array}{r}124\\ \underline{x32}\end{array}$$

a. 3966
b. 3962
c. 3968
d. 2968
e. 358

. Say:

- We can narrow the answer choices in this example by initially performing the multiplication in the ones place. The product that results from multiplying the ones place is a clue to the answer.

. Ask a student to multiply 4 x 2.

- Say:
  - What is the result? (8)
  - We know that an 8 must appear in the ones place. Which answers can we eliminate? (a, b)
  - Why? (8 is not in the ones place.)
  - Which answer choices are remaining? (c, d, e)

- Ask the students to look at choices (c), (d), and (e).

- Say:
  - Our next step is to multiply in the tens place. We know that when we multiply a 3-digit number by 10 or a multiple of 10 we must have at least a 4-digit product. Which answer can be eliminated now? (Elicit that answer choice (e) should be eliminated because it has only three digits.)

- Say:
  - We have narrowed the choices to (c) and (d).

- Using estimation skills the students will be able to see that the digit in the thousands place must be 3 or more. This skill will lead students to eliminate answer choice (d).

- Ask the students to explain why they eliminated choice (d). (2 could not be the digit in the thousands place because this answer would be too small.)

- Say:
  - Why must the digit in the thousands place be 3 or higher? (100 x 30 = 3000)

  - By using our skills in multiplication and estimation, we selected the answer without actually solving the example.

- Have students look at the same example with different answer choices. Write the following on the chalkboard:

124
x32

a. 3966
b. 3962
c. 3968
d. 2968
e. NOT HERE

- Say:
  - We can narrow down these answer choices using skills we just practiced.

  - Which answers can we eliminate? (a, b, d)
  - Why did we eliminate answer choice (a)? (because 8 is not in the ones place)
  - Why did we eliminate answer choice (b)? (because 8 is not in the ones place)
  - Why did we eliminate answer choice (d)? (because 3 or more must be in the thousands place)

  - Only answers (c) and (e) are left. Since one of the choices is labeled "NOT HERE," we must solve the problem. If the answer you get matches answer choice (c), eliminate choice (e). If answer choice (c) is incorrect, answer choice (e) is the right choice.

FOLLOW-UP:

- Duplicate and distribute Mathematics Worksheet 3 to assess mastery of the skills in this lesson.

- Ask the students to look at example 1, Part I.

- Say:
  - What digit do you estimate will be in the ones place in the final product? Write that digit in the box to the left of the example.

  - We will solve this example together. (Write the example on the chalkboard.)

$$\boxed{} \qquad \begin{array}{r} 126 \\ \text{x } 34 \\ \hline 504 \\ 3780 \\ \hline 4284 \end{array}$$

- Ask a student to complete the multiplication. Say: "Was your estimate correct?"

- Ask the students to look at example 1, Part II.

- First, have them estimate their answer, then round the multiplier and multiplicand to the largest place to get a more accurate product. Finally, have students multiply to find the actual product.

TEST:

Duplicate and distribute Mathematics Test--Lesson 3. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

- Students will be asked to eliminate unreasonable answers by initially multiplying to find the digit in the ones place.
- Looking at example 1, the student will think 6 x 2 = 12 and place a "2" in the ones place.
- Answer choices (a) and (d) would be immediately eliminated, leaving choices (b), (c), and (e).
- Choices (c) and (e) can be eliminated when the student uses estimation skills.
- Answer choice (c) can be eliminated because 7 x 3 does not equal 14.
- Answer choice (e) can be eliminated because this 3-digit number times this 2-digit number could not result in a 4-digit answer.
- After eliminating unreasonable answer choices, (b) is the only answer choice remaining.
- Questions 4 and 5 require that the student complete the example, since NOT HERE is an answer choice.

ADDITIONAL TEST QUESTIONS:

These test items can be used for further practice of this skill.

- Test 6.01 Questions 5, 6, 7, 8, 9, 10
- Test 6.02 Questions 9, 11
- Test 6.03 Questions 10, 11
- Test 6.04 Questions 3, 4, 8, 9, 17, 23, 24
- Test 6.05 Questions 21, 22, 23, 24, 27, 30, 31, 32
- Test 6.06 Questions 2, 4, 6, 8, 10, 12

MATHEMATICS WORKSHEET 3

Skill 3: Eliminating Unreasonable Answers While Finding Reasonable Answers

NAME:____ **CLASS:**__________ **DATE:**________

Directions: Estimate the digit that will be in the ones place in the product. Write it in the box. Solve the problem. Were you right?

☐ 1. 126
× 34

☐ 2. 733
× 29

☐ 3. 493
× 63

☐ 4. 345
× 48

Guesstimate your answer. Remember to multiply the largest digit in the multiplier by the largest digit in the multiplicand. Count the number of places in the answer. Round each 4-digit number to the neaest thousand, each 3-digit number of the nearest hundred, and each 2-digit number to the nearest ten. Multiply. Was your guesstimate close to the rounded example? Is the product when you rounded even closer to the final answer?

Example	Guesstimate	Rounds to	Final answer
426 × 59	20,000	400 × 60 24,000	426 × 59 25,134
176 × 33			
621 × 87			
214 × 360			
4381 × 64			

NAME: ____________________ CLASS: ____ DATE: ________

MATHEMATICS TEST--LESSON 3

Skill 3: Eliminating Unreasonable Answers While Finding Reasonable Answers

Directions: Multiply to find the correct digit in the ones place. Cross out all unreasonable answers. Solve. Fill in the circle next to the correct answer.

1. 346 x 72

○ a. 24910
○ b. 24912
○ c. 14902
○ d. 6349
○ e. 2642

2. 591 x 58

○ f. 3274
○ g. 2730
○ h. 34287
○ i. 34278
○ k. 8491

3. 1484 x 16

○ a. 23744
○ b. 3986
○ c. 24840
○ d. 27443
○ e. 2389

Select the correct answer.

4. 304 x 67

○ a. 10489
○ b. 4967
○ c. 20368
○ d. 2368
○ e. NOT HERE

5. 692 x 54

○ f. 27368
○ g. 4354
○ h. 65101
○ i. 59043
○ j. NOT HERE

TIP: Remember to check the digit in the ones place. Remember to use estimation as you continue working.

Skill 4: Looking for patterns to solve problems

PERFORMANCE OBJECTIVE: Students will be able to:

create a chart to recognize a pattern.

EXPLANATION:

. Students create charts to discover patterns which will enable them to solve problems.

DEVELOPMENT:

. Write the following problem on the chalkboard:

> Mary started a new exercise program. She began doing 5 sit-ups a day. On Monday of each week, Mary added five sit-ups to her daily routine. How many weeks will it take Mary to reach 65 sit-ups a day?

. Elicit that this problem can be solved by creating a simple chart in order to find the pattern.

. Say:

- What do we want to find out? (the number of weeks it takes Mary to reach 65 sit-ups)
- What information do we have? (the number of sit-ups she started with and the number of sit-ups she adds each week)

. Draw the following chart on the chalkboard:

Weeks	Sit-ups
1	5
2	?
3	?
.	?
.	?
.	?

. Say:

- How many sit-ups did Mary do each day during the first week? (5)
- *How many sit-ups did she add the second week? (5)*
- How many sit-ups did she do each day during the second week? (10)

. Ask students to complete the chart.

. Say:

- What is the pattern? (counting by fives)
- How many weeks will it take Mary to reach 65 sit-ups? (13 weeks)

. Point out that by finding the pattern students can solve the problem. Repeat this procedure using other examples. (See Mathematics Worksheets 4A, 4B, and 4C.)

FOLLOW-UP:

. Duplicate and distribute Mathematics Worksheet 4D.

. Ask the students to look at Problem 1.

. Say:

- Who opened a bank account? (Mary)
- How much money did she put in the bank? ($15.00)
- How often does she put money in the bank? (once a month)

. Complete the chart with the class.

. Write the following on the chalkboard:

Month	1	2				
Amount	15					

. Say:

- How much did Mary put in the bank the second month? ($15.00)
- How much did she have in all? ($30.00)

. Ask a student to put this information in the chart.

. Continue this procedure through 6 months.

- What is the pattern? (adding $15.00)
- Can you find the answer without completing the chart? (11 months)

. Allow those students who are able to complete the chart independently to do so while you continue working with the other students.

TEST:

Duplicate and distribute Mathematics Test--Lesson 4. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

. Direct the students attention to the chart at the top of Mathematics Test--Lesson 4.

. Say:

- What does this chart show? (relationship between months and money saved)
- How much money did Joe save between months 1 and 2? ($25.00)
- How much money did Joe save between months 3 and 4? ($25.00)
- How much money did Joe save between months 4 and 5? ($25.00)
- How did you find this information? (by subtraction)

- Look at question 1.
- Which answer is correct? (b)
- Why? (We found that Joe saves 25 dollars a month.)

ADDITIONAL TEST ITEMS:

The following test items may be used with this skill:

- Test 6.01 Questions 2, 4
- Test 6.03 Questions 1, 5, 6, 7, 8
- Test 6.05 Questions 17, 18, 19 20
- Test 6.06 Questions 13, 14, 15, 16, 17, 18, 19, 20 21, 22, 23, 24

MATHEMATICS WORKSHEET 4A

Skill 4: Looking for Patterns to Solve Problems

NAME:______________________________ CLASS:__________ DATE:________

Directions: Complete the number sequences.

(1) 1, 2, 5, 10, 17, 26

(2) 80, 90, 100, ____, 120

(3) 95, 90, 85, ____, ____

(4) 5, 10, 20, 35, ____, ____

(5) 6, 7, 9, 12, ____, ____

(6) 10, 11, 9, 10, 8, ____, ____

(7) 100, 200, ____, 400, ____

(8) 950, ____, 850, ____, 750, 700

(9) 22, 32, 52, 82, ____

(10) 11, 20, 28, 35, ____, ____

(11) 20, 40, 60, ____, ____

(12) 17, 16, 14, 13, ____, ____

(13) 99, 88, 66, ____

(14) 490, 493, 499, 508, ____

(15) 715, 700, 685, ____, ____

MATHEMATICS WORKSHEET 4B

Skill 4: Looking for Patterns to Solve Problems

NAME:____CLASS:________DATE:______

DIRECTIONS: Solve these problems.

I. Mary gets an allowance of $5.00 a week. How long will it take her to save $75.00? Construct a chart to solve this problem.

Week																
Money Saved																

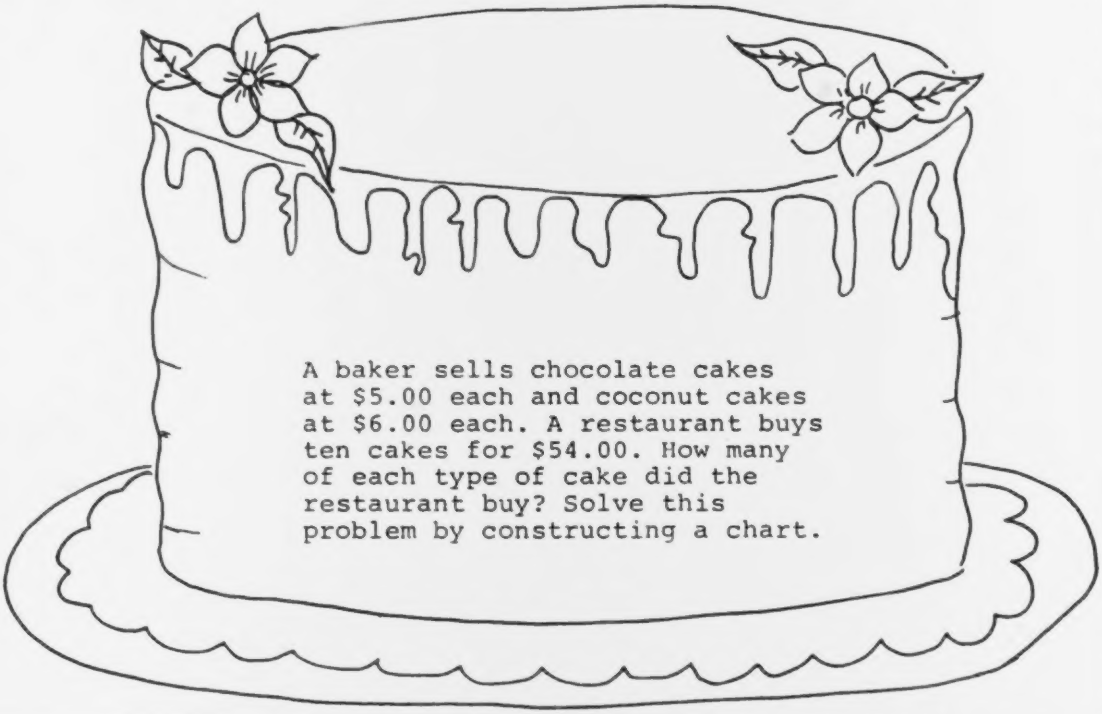
II. Bob does 50 pushups a day. At the beginning of each new week he adds 5 pushups. How many weeks will it take him to reach 100 pushups? Construct a chart to solve this problem.

Week																
Pushups																

MATHEMATICS WORKSHEET 4C

Skill 4: Looking for Patterns to Solve Problems

NAME:______________________________ CLASS:________ DATE:_______



A baker sells chocolate cakes at $5.00 each and coconut cakes at $6.00 each. A restaurant buys ten cakes for $54.00. How many of each type of cake did the restaurant buy? Solve this problem by constructing a chart.

Chocolate	Coconut	Total
1	9	(1 x 5) + (9 x 6) = $59.00
2	8	(2 x 5) + (8 x 6) =

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS WORKSHEET 4D

Skill 4: Looking for Patterns to Solve Problems

Directions: Read the problem. Make a chart to find a pattern. The pattern will help you to solve the problem.

1. Mary opened a bank account. On the first of each month she deposits $15.00. How long will it take her to save $165.00?

Month	1								
Amount	15								

2. Sam has 825 football cards. If he gives away 25 cards each week, how long will it take him to give all his cards away?

Week	Cards

3. Mother needs 900 cookies for the party. How long will it take her to bake the cookies if she bakes 50 each day?

Day				
Number of Cookies				

4. The cafeteria workers serve 275 meals each day. How long does it take them to serve all the meals if they serve 35 meals per minute?

Minute	Number of Meals Served

NAME: ____________________ CLASS: ___ DATE: _______

MATHEMATICS TEST--LESSON 4

Skill 4: Looking for Patterns to Solve Problems

Directions: Use the chart to find the pattern and solve the problems.

Joe's Savings Account

Number of Months	1	2	3	4	5	6	7	8
Bank Balance	515	540	565	590	615	640		

1. How much does Joe save each month?

○ a. $10
○ b. $15
○ c. $50
○ d. $25

2. How much will Joe have after 8 months?

○ e. $660
○ f. $680
○ g. $690
○ h. $625

3. How much will Joe have after 12 months?

○ a. $1240
○ b. $1290
○ c. $790
○ d. $315

4. How much will Joe have after 2 years?

○ e. $1090
○ f. $1290
○ g. $2540
○ h. $2565

TIP: Be sure to find the pattern before answering the questions.

Skill 5: Using and constructing tables, graphs, charts, and diagrams

PERFORMANCE OBJECTIVE: Students will be able to:

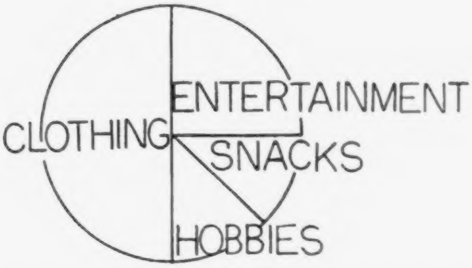
use tables, graphs, charts, and diagrams to solve problems

EXPLANATION: Tables, graphs, charts, and diagrams show various types of information. By learning to use a chart, graph table, or diagram, students will be able to extract the information needed to solve problems.

DEVELOPMENT:

. Draw the following graph on the chalkboard:

John's Allowance



. Ask a student to identify the graph shown. (circle graph)

. Say:

- What does this graph show? (how John spends his allowance)
- How do you know that? (title)
- How many different ways does John spend his allowance? (4)
- On what does he spend the most money? (clothing)
- On what does he spend equal amounts? (snacks, hobbies)
- What fractional part of the whole does John spend on clothing? (1/2)
- What part does John spend on entertainment? (1/4)
- What part does John spend on snacks? (1/8)
- What part does John spend on hobbies? (1/8)

- If John gets $10.00 a week as an allowance, how much does he spend on clothing? ($5.00)
- If John gets $10.00 a week, how much does he spend on entertainment? ($2.50)
- If John gets $10.00 a week, how much does he spend on snacks? ($1.25)
- If John gets $10.00 a week, how much does he spend on hobbies? ($1.25)

. Draw the following chart on the chalkboard:

Attendance at High School Football Games

	Men	Women	Youngsters
Game 1	487	266	512
Game 2	314	427	426
Game 3	512	320	517
Game 4	487	218	531

. Say:

- What does this chart show? (attendance at high school football games)
- How many people attended game 1? (1,265)
- How many people attended game 2? (1,167)
- How many people attended game 3? (1,349)
- How many people attended game 4? (1,236)
- Which game had the highest attendance? (3)
- Which game had the lowest attendance? (2)
- Which game had the most women attending? (2)
- Which game had the most men attending? (3)
- Which game had the most youngsters attending? (4)
- What is the difference between the highest attendance and the lowest attendance? (182)
- Which games had a difference of 29 people attending? (1, 4)

. Repeat this procedure for other types of graphs, charts, and tables. Use Mathematics Worksheets 5A, 5B, 5C, and 5D.

FOLLOW-UP: . Duplicate and distribute Mathematics Worksheet 5E.

. Ask the students to look at the graph at the top of the page.

. Say:

- What kind of graph is this? (circle graph)
- Into how many parts is the graph divided? (6)

- Are the parts equal? (no)
- What fractional part of the graph represents students who watch T.V.? (1/4)
- What fractional part of the graph represents students who babysit? (1/8)
- What fractional part of the graph represents students who do homework? (1/8)
- What fractional part of the graph represents students involved in activities in an After School Center, with music, and/or in the Library? (1/6)

. Complete the worksheet with your students.

TEST: Duplicate and distribute Mathematics Test--Lesson 5. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

. Students will use the circle graph to correctly answer the following problems. Initially they will study the graph to discover the information that is presented.

By determining the fractional divisions and combining them with the information extracted from the graph, the students will be able to select the correct answers.

. Ask the students to look at question 1.

. Discuss the fractional parts of the graph.

. Ask a student to read the question.

. Discuss the answer choices in terms of the fractional representations.

. Help the students see that answer choice (c) is the correct choice because movies represents 1/2 of the total graph.

ADDITIONAL TEST ITEMS:

The following test items may be used with this skill:

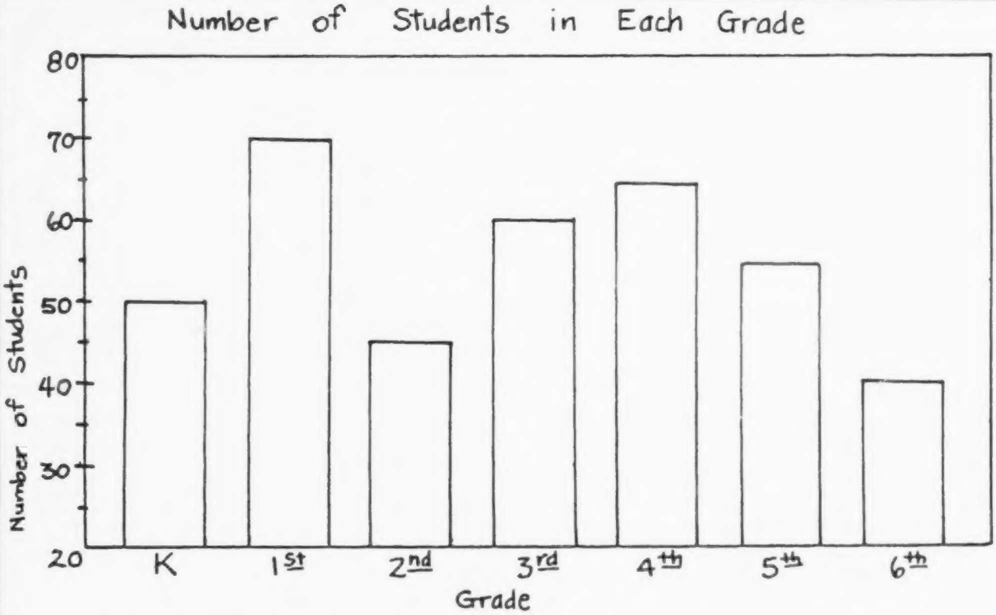
- Test 6.01 Question 11
- Test 6.02 Questions 10, 12
- Test 6.03 Questions 9, 12, 13, 15, 16,
- Test 6.04 Questions 6, 7
- Test 6.05 Questions 14, 15, 16

MATHEMATICS WORKSHEET 5A

Skill 5: Using and Constructing Tables, Graphs, Charts, and Diagrams

NAME:____________________ CLASS:________ DATE:_______

Use the graph to answer each question.



1. Which grade has the most students? 1st grade
2. Which grade has the fewest students?________
3. How many students are in the 6th grade?________
4. How many students are in the 2nd grade? ________
5. Which grade has more students, grade 4 or grade 5?________
6. Which grades have more students than the 3rd grade?________
7. Which grades have fewer students than the Kindergarten?________
8. How many students are in the Kindergarten?________

MATHEMATICS WORKSHEET 5B

Skill 5: Using and Constructing Tables, Graphs, Charts, and Diagrams

NAME:____CLASS:__________DATE:_______

Use the chart to help you solve each problem.

Cost to operate Home Appliances

Appliance	Cost per month
Clock	$ .08
Oven	4.95
Refrigerator	3.16
Water heater	12.60
Color T.V.	2.15
Washing Machine	.45
Lights	5.85

1. How much more expensive is it to operate a color T.V. than a washing machine?

$$\begin{array}{r} \$2.15 \\ -\ \ 45 \\ \hline \$1.70 \end{array}$$

2. What is the cost per month of operating a water heater and an oven?

3. What would be the cost of operating a clock for an entire year?

4. How much cheaper is it to use a refrigerator than a water heater?

5. What is the cost per month of operating lights, an oven, and a clock?

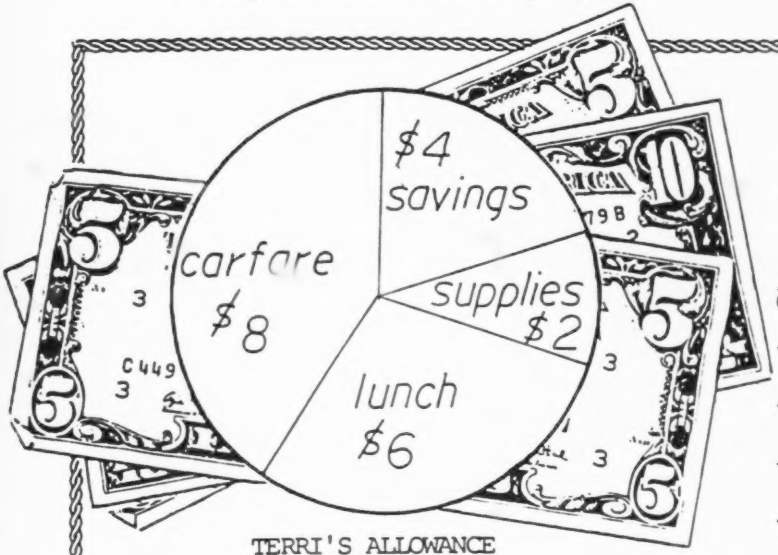
6. What would be the cost of operating a color T.V. for a whole year?

MATHEMATICS WORKSHEET 5C

Skill 5: Using and Constructing Tables, Graphs, Charts, and Diagrams

NAME:______________________________ CLASS:__________ DATE:________

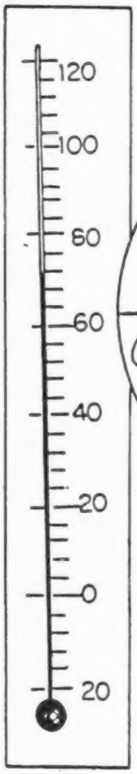
Interpret the circle graphs.



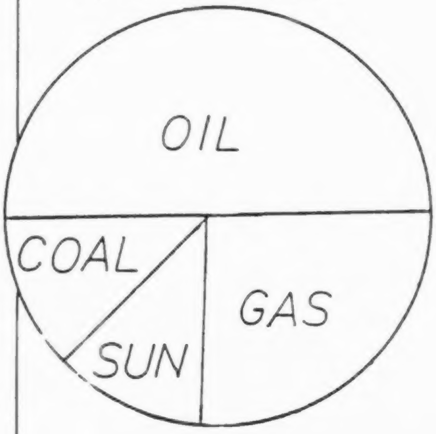
TERRI'S ALLOWANCE

Terri's allowance is $20.00 what part does she spend on each item?

Item	Amount	Part
Carefare	$8	$\frac{8}{20} = \frac{2}{5}$



FUELS USED FOR HEAT



What part comes from oil?______

What part comes from gas?______

What part comes from coal? ______

What part comes from sun? ______

C. Look for a circle graph in a magazine or newspaper. Bring it to class for discussion.

MATHEMATICS WORKSHEET 5D

Skill 5: Using and Constructing Tables, Graphs, Charts, and Diagrams

NAME:____CLASS:_________DATE:_______

I. Read each problem. Finish the chart.
II. Construct a chart to solve the problem.

I.

1. How long will it take Mario's Pizzeria to earn $90,000, if it earns $15,000 per month.

Month	Jan	Feb			
Total Earnings	$15,000	$30,000			

2. How many votes did David and Nicole receive if they both received the same amount?

Class Election

Name	Votes
John	9
Michelle	7
Tonia	3
David	
Nicole	
Total	35

II. John, Paul, Nicole and Carmen are running for class President. Thirty five votes are cast in the class elections. John receives five votes. Nicole receives three times as many votes as John. Paul receives one-third as many votes as Nicole.

a) How many votes did each candidate receive?

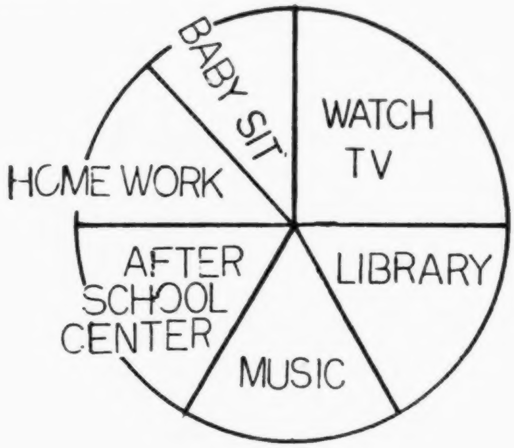
b) Who won the election?

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS WORKSHEET 5E

Skill 5: Using and Constructing Tables, Graphs, Charts, and Diagrams

Directions: Use the graph to answer questions 1-3. Use the table to answer questions 4-6.



1. How many different things do the students do after school? _____
2. What do the greatest number of students do? _____
3. What fractional part of the circle graph represents students who babysit?

Different Ways to Make 15¢

Pennies	10	5	5	0
Nickels	1	2		3
Dimes			1	
Total	15	15	15	15

4. Which combination uses the greatest number of coins? _____
5. Which combination uses the least number of coins? _____
6. Which combination uses only one kind of coin? _____

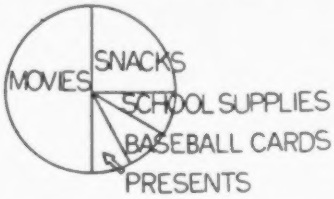
NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS TEST LESSON 5

Skill 5: Using and Constructing Tables, Graphs, Charts, and Diagrams

Directions: Use the graph to answer the questions.

Merle's Allowance



1. What does Merle spend the most money on?

○ a. snacks
○ b. presents
○ c. movies
○ d. school supplies
○ e. baseball cards

2. How many different ways does she spend money?

○ f. 2
○ g. 5
○ h. 3
○ i. 4
○ j. 6

3. What fractional part of the whole does she spend on snacks?

○ a. 1/2
○ b. 1/5
○ c. 1/4
○ d. 1/8
○ e. 1/3

4. If Merle gets $10.00 for her allowance, how much does she spend for movies?

○ f. $ 1.00
○ g. $ 2.50
○ h. $ 3.00
○ i. $ 5.00
○ j. $10.00

TIP: Read each label on the graph carefully.

Skill 6: Using an inverse operation to check or solve

PERFORMANCE OBJECTIVE:

Students will be able to:

check answers and solve problems by using an inverse operation

EXPLANATION:

- One way to check an answer is by using the inverse operation.
- For example, addition and subtraction are inverse, or opposite, operations as are multiplication and division. One operation undoes the other.

3 + 4 = 7	4 + 3 = 7
7 - 3 = 4	7 - 4 = 3
3 x 4 = 12	4 x 3 = 12
12 ÷ 4 = 3	12 ÷ 3 = 4

- Use of the inverse is a technique that students can use to solve problems.

DEVELOPMENT:

- Write the following example on the chalkboard:

$$\begin{array}{r} 36985 \\ +\ \underline{24368} \end{array}$$

- Ask a student to solve the example.
- Say:
  - How can we check this example? (Elicit that we can use subtraction.)
  - Subtraction is the opposite, or inverse, operation of addition.
  - We can check this example by subtracting either addend from the sum.

- Ask a student to come to the chalkboard and identify the addends and the sum.

$$\begin{array}{rl} 36985 & \text{addend} \\ -\ \underline{24368} & \text{addend} \\ 61353 & \text{sum} \end{array}$$

- Ask another student to write a subtraction example to check the addition.

- Say:

  - The difference must be the same as the addend we did not subtract.

$$\begin{array}{r} 36985 \\ -\ \underline{24368} \\ 61353 \end{array} \qquad \begin{array}{r} 61353 \\ -\ \underline{36985} \\ 24368 \end{array}$$

- Ask a student to form another subtraction example to check the addition of the sums.

- Repeat this procedure for other examples.

- Say: "Inverse operations can be used to solve a problem."

- Write the following on the chalkboard:

$$\begin{array}{r} 497 \\ +\ \underline{\boxed{}} \\ 9763 \end{array}$$

- Say: "We must use the inverse operation of addition (subtraction) to find an answer to fill the box."

- Elicit that the following example would be used:

$$\begin{array}{r} 9763 \\ -\ \underline{497} \\ 9266 \end{array} \qquad \begin{array}{r} 9266 \\ +\ \underline{497} \\ 9763 \end{array}$$

- Repeat this procedure using other addition and subtraction examples.

- Write the following example and answer choices on the chalkboard:

$10\overline{)550}$

a. 500
b. 50
c. 5
d. 55
e. NOT HERE

- Say: "If you did not know how to solve this division example, you might use the inverse operation of multiplication as a helpful tool."

- Write the following on the chalkboard:

$$\begin{array}{r} \boxed{} \\ \times \ \underline{10} \\ 50 \end{array}$$

- Say:

  - Look at the multiplication example on the chalkboard.
  - What is the product? (550)
  - We know that when we multiply by 10 or multiples of 10 we will have a zero in the ones place.
  - Draw a line through the zero in the multiplier and in the product.
  - What number is left in the product? (55)
  - What number times one equals 55? (55)
  - Write 55 in the box.
  - Our answer is 55. We just solved the division example by using the inverse operation of multiplication.

- Write the following on the chalkboard.

$$\begin{array}{r} 55 \\ 10\overline{)550} \end{array} \qquad \begin{array}{r} 55 \\ \times \ \underline{10} \\ 550 \end{array}$$

- Say:

  - The division example asks us how many groups of 10 are in 550.
  - The multiplication example asks how much is 10 groups of 55.
  - The dividend is the same as the product. The multiplier is the same as the divisor.
  - One operation asks the opposite of the other.

FOLLOW-UP:

- Duplicate and distribute Mathematics Worksheet 6.
- Ask the students to look at the first example.
- Say:
  - What operation is indicated by the symbol? (addition)
  - Ask a student to solve the example. (130,807)
  - What operation would we use to check our work? (subtraction)
  - Why? (Subtraction is the opposite operation of addition.)
- Ask a student to write a subtraction example that could be used to check this addition example.

$$\begin{array}{r} 130807 \\ -\ \underline{34931} \\ 95876 \end{array} \qquad\qquad \begin{array}{r} 130807 \\ -\ \underline{95876} \\ 34931 \end{array}$$

- Say:
  - What does the box represent? (the sum of the addition example)
  - What are we subtracting from the sum? (one of the addends)

TEST:

Duplicate and distribute Mathematics Test--Lesson 6. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

- Ask the students to look at question 1.
- Ask the students to identify the indicated operation.
- Say:
  - What operation would you use to check this addition example? (subtraction)
  - Why? (Subtraction is the opposite or inverse operation of addition.)
  - Look at the answer choices.

- Are there any answer choices we can immediately eliminate? (d)
- Why? (It is not a subtraction example.)

- When utilizing the operation of subtraction to check an addition example we must subtract either of the addends from the sum. There are two algorithms that can be utilized for this:

$$\begin{array}{r} 14268 \\ -\ 9876 \\ \hline \end{array} \qquad\qquad \begin{array}{r} 14268 \\ -\ 4392 \\ \hline \end{array}$$

- Only one of these appears as an answer choice. (c)

. Have students explore why answer choices (a) and (b) are not acceptable. ([a] does not involve the sum and [b] would result in a negative answer.)

ADDITIONAL TEST ITEMS:

The following test items may be used with this skill:

- Test 6.02 Questions 1, 7, 8
- Test 6.04 Questions 20, 21, 22

NAME: ____________________ CLASS: ____ DATE: ________

MATHEMATICS WORKSHEET 6

Skill 6: Using an Inverse Operation to Check or Solve

PART I

Directions: Solve and check.

```
1.      95876          Check:
      + 34931

2.      76385          Check:
        24761

3.                     Check
        45 )34335
```

PART II

Directions: Use the inverse operation to find the correct answer.

1. 68)293823

○ a. 6584
○ b. 4976
○ c. 3849
○ d. 4321

2. 395 + ☐ = 98374

○ a. 98634
○ b. 97832
○ c. 97979
○ d. 98797

3. ☐ - 2439 = 5871

○ a. 831
○ b. 8310
○ c. 3432
○ d. 3423

NAME: ______________________ CLASS: ___ DATE: ______

MATHEMATICS TEST-- LESSON 6

Skill 6: Using an Inverse Operation to Check or Solve

Directions: Read each question carefully.

Which example would you use to check the following problems?

1. $$\begin{array}{r} 9876 \\ +\ \underline{4392} \end{array}$$

○ a. $$\begin{array}{r} 9876 \\ -\ \underline{4342} \end{array}$$

○ b. $$\begin{array}{r} 4392 \\ -\ \underline{9876} \end{array}$$

○ c. $$\begin{array}{r} 14268 \\ -\ \underline{4392} \end{array}$$

○ d. $$\begin{array}{r} 9876 \\ \times\ \underline{4392} \end{array}$$

○ e. NOT HERE

2. $$\begin{array}{r} 750 \\ \times\ \underline{10} \end{array}$$

○ f. $10\overline{)750}$

○ g. 75 x 10

○ h. 750 - 10

○ j. 750 + 10

○ k. NOT HERE

NAME: ______________________________

3. $9837 + \square = 73579$

○ a. $73579 + 9837 = \square$

○ b. $9837 - \square = 73579$

○ c. $73579 - 9837 = \square$

○ d. $9837 \times \square = 73579$

○ e. NOT HERE

4. $75\overline{)372900}$

○ f. $\begin{array}{r} 4972 \\ \times\ \ \underline{75} \end{array}$

○ g. $75\overline{)4972}$

○ h. $\begin{array}{r} 4972 \\ -\ \ \underline{75} \end{array}$

○ i. $\begin{array}{r} 372900 \\ -\ \ \underline{4972} \end{array}$

○ j. NOT HERE

TIP: Remember: You can check or solve division examples by multiplying. You can check or solve multiplication examples by dividing. You can check or solve addition examples by subtracting. You can check or solve subtraction examples by adding.

Skill 7: Guess and check

PERFORMANCE OBJECTIVE:

Students will be able to:

check guesses against problem conditions.

EXPLANATION:

. To teach students to guess and check, it is first necessary to encourage students to make guesses. Only when students are comfortable with making guesses can they be taught the essentials of a guess and check strategy.

. Students should be encouraged to make an "educated" guess, something that is possible or likely. Asking students to justify their guesses will familiarize them with the process of looking for the "why" that flows from the guess.

. Be sure students check the guess against the conditions of the problem. For example, the guess can not be an odd number when the question asks for an even number.

. Use the information obtained in checking to make a better guess. For example, use the problem of looking for an odd number between 30 and 40 with repeating digits.

Step 1 All the numbers between 30 and 40 (31, 32, 33, 34, 35, 36, 37,38, 39)
Step 2 All the odd numbers (31, 33, 35, 37, 39)
Step 3 All the odd numbers with repeating digits (33)

The answer = 33

. Continue the refining process until the correct answer is obtained. Sometimes more than 3 steps are necessary.

. This is probably the simplest and most natural of all the skills and can be successfilly utilized with many other topics. If done appropriately, student self-image and classroom climate can benefit greatly.

DEVELOPMENT:

. Say:

- I am thinking of a number. (Ask a student to write a number.)

- My number has 2 digits. (If the student's number is not a 2-digit number, the student must change that guess to a 2-digit number.)
- My number is an odd number. (If the student's 2-digit number is not an odd number, the student again must refine the guess.)
- My number is between 42 and 46. (The student lists all the odd numbers between 42 and 46, and further refines the guess.)
- My number is a prime number.

. Ask students to define a prime number. (A prime number has only two factors, one and the number itself.)

. Elicit that the number must be 43.

. Review prime and composite numbers and odd and even numbers.

. Present other problems in which the student must continue to refine a guess to arrive at the answer.

FOLLOW-UP:

. Duplicate and distribute Mathematics Worksheet 7A.

. Ask a student to read question 2. Ask student volunteers to write 2-digit numbers.

. Elicit enough responses so that one or more of the responses reflect consecutive digits. For example:

67 12 34 13 27 65 45 10 77 23

. Ask students to begin the refining process by crossing out any two digit numerals whose digits are not consecutive. It may be necessary to review the meaning of consecutive digits.

. On the model, have students cross out those numbers which were eliminated in the first step of the refining process.

67 12 34 ~~13~~ ~~27~~ ~~65~~ 45 ~~10~~ ~~77~~ 23

. Examine the remaining numbers and ask the students to cross out all numbers which are not odd numbers.

67 ~~12~~ ~~34~~ 45 23

- Look at the three remaining numbers. Ask the students to find the sum of the digits for each remaining number.

- Ask: "Which number has the sum of 5 if you add its digits together?"

67	45	23
sum of the digits = 13	sum of the digits = 9	sum of the digits = 5

- Continue to use Mathematics Worksheet 7A to assess mastery of the skill in the lesson. Further opportunity to utilize a guess and check strategy may be obtained through the use of Mathematics Worksheet 7B.

- Students will enjoy writing their own guess and check problems. Share the student-created problems with other classes willing to participate in a "math-bee."

TEST:

Duplicate and distribute Mathematics Test--Lesson 7. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

- Each question presents multiple conditions.

- Encourage students to discover intermediate steps when necessary.

- Allow students to become familiar with using scrap paper.

- For example in question 1 students may list all of the numbers presented as answer choices:

  432 341 222 444

  - The student must then add the digits:

4 + 3 + 2	2 + 2 + 2	4 + 4 + 4
sum of the digits = 9	sum of the digits = 6	sum of the digits = 12

  - The problem asks for a sum of 8. Since none of the above equals 8, NOT HERE is the correct answer.

ADDITIONAL TEST QUESTIONS:

The skill of guessing and checking may be utilized with the following test questions:

- Test 6.03 Question 3
- Test 6.04 Questions 10, 28
- Test 6.05 Question 7

MATHEMATICS WORKSHEET 7A

Skill 7: Guess and Check

NAME:__________________________________CLASS:________DATE:______

DIRECTIONS : Read the problem. Refine your guesses by looking for additional information.

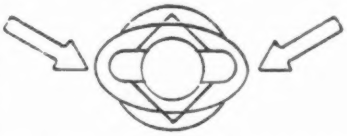
① I am a 3 digit number

I am an even number

All three digits are the same

The sum of my digits is 12

What number am I ?



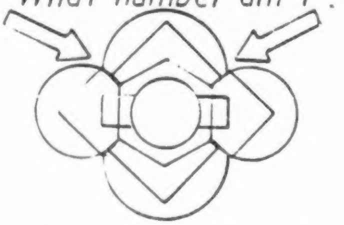
② I am a 2 digit number.

My digits are consecutive.

I am an odd number.

The sum of my digits is 5.

What number am I ?



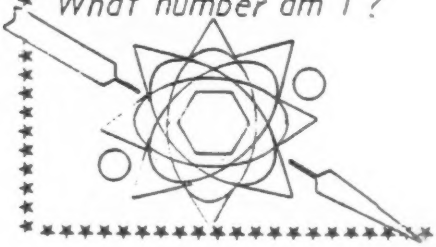
③ My number is odd

I am a 3 digit number

I read the same forwards and backwards.

The sum of my digits is 2 .

What number am I ?



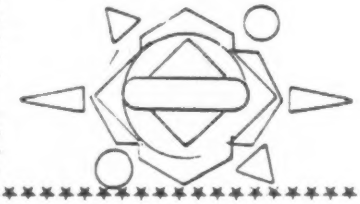
④ I am a 3 digit number

I am an even number

I read the same forwards and backwards.

The sum of my digits is 5.

What number am I ?



MATHEMATICS WORKSHEET 7B

Skill 7: Guess and Check

NAME: ____________________________ CLASS: __________ DATE: ____________

Fill in the number needed to complete each multiplication magic square. Magic squares may be multiplied vertically and horizontally but not diagonally.

1.

2	3	3
3	6	1
3	1	5

2.

12	2	1
1	3	
2	4	3

3.

3	4	
2	1	6
2	3	2

4.

4	12	2
6	2	8
4	4	

Solve.

5. The sum of the digits of a two digit number is 9.
The product of the two digit is 20. The number is odd.
What is the number? ________________.

6. The digits of a three digit number are consecutive. The sum of the three digits are the same as their product. What is the number?____________.

7. The sum of the digit of a two digit number is 7.
The numbers are consecutive and their product is 12.
What is the number?_______________.

8. The digits of a three digit number are consecutive even numbers. The sum of two of the digits is equal to two times the other digit. What is the number?____________.

NAME: ____________________ CLASS: ____ DATE: ________

MATHEMATICS TEST--LESSON 7

Skill 7: Guess and Check

Directions: Read each question. Choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. Find an even 3-digit number. The sum of the digits is 8.
   ○ a. 432
   ○ b. 341
   ○ c. 222
   ○ d. 444
   ○ e. NOT HERE

2. Find an odd 3-digit number. The digits are consecutive.
   ○ f. 456
   ○ g. 345
   ○ h. 246
   ○ i. 147
   ○ j. 534

3. Multiply a number by 3. The sum of the digits in the product equals 3. What is the number?
   ○ a. 3
   ○ b. 7
   ○ c. 0
   ○ d. 6
   ○ e. NOT HERE

4. Find a 6 digit number. The sum of the digits is 31.
   ○ f. 310010
   ○ g. 775461
   ○ h. 785461
   ○ i. 897623
   ○ j. NOT HERE

TIP: Make sure you use all the information before you select your answer.

Skill 8: Testing answer choices

PERFORMANCE OBJECTIVE:

Students will be able to:

test answer choices to determine the correct answer.

EXPLANATION:

- Students sometimes arrive at a solution to a problem which does not appear as an answer choice.
- When NOT HERE is one of the possible choices it is often the correct answer.
- When NOT HERE is not a choice, the student must choose a test-taking strategy.
- If the student is not comfortable using one of the strategies already presented, he/she may decide to work backwards by testing the answer choices which have been provided.

DEVELOPMENT:

- Write the following problem and answer choices on the chalkboard:

Which pair of factors will give a product that reads the same forward and backward?

a. 17 and 7
b. 18 and 8
c. 19 and 9
d. 16 and 6
e. 15 and 5

- Ask a student to read the problem.
- Say:
  - Which operation must we choose to solve this example? (multiplication)
  - Which key words told you to multiply? (factors, product)
  - One way to solve this problem would be to use each answer choice one at a time and work backwards.
  - First we will try answer choice (a).

. Write the following example on the chalkboard:

$$\begin{array}{r} 17 \\ \times \ 7 \\ \hline \end{array}$$

. Ask a student to solve the example.

$$\begin{array}{r} 17 \\ \times \ 7 \\ \hline 119 \end{array}$$

. Say:

- Does this answer read the same forward and backward? (no)
- What does the number read forward? (119)
- What does the number read backward? (911)
- Is it the correct answer choice? (no)
- Let's try answer choice (b).

. Write the following example on the chalkboard:

$$\begin{array}{r} 18 \\ \times \ 8 \\ \hline \end{array}$$

. Ask a student to solve the example.

$$\begin{array}{r} 18 \\ \times \ 8 \\ \hline 144 \end{array}$$

. Say:

- Does this answer meet the requirements of the problem? (no)
- Why? (It does not read the same forward and backward.)
- What does it read forward? (144)
- What does it read backward? (441)
- Is it the correct answer choice? (no)
- Let's try answer choice (c).

. Ask a student to write the example and solve it.

$$\begin{array}{r} 19 \\ \times \ 9 \\ \hline 171 \end{array}$$

- Say:

  - Read the answer forward. (171)
  - Read the answer backward. (171)
  - Does this answer meet the requirements of the problem? (yes)
  - Answer choice (c) is correct.
  - Let's test the remaining choices to see if we have really solved the problem.

- Ask a student to use answer choice (d), write and solve the example.

$$\begin{array}{r} 16 \\ \times\ \ 6 \\ \hline 96 \end{array}$$

- Say:

  - Read the answer forward. (96)
  - Read the answer backward. (69)
  - Does this answer meet the conditions of the problem? (no)
  - Answer choice (d) is incorrect.

- Finally, ask a student to use answer choice (e), write and solve the example.

$$\begin{array}{r} 15 \\ \times\ \ 5 \\ \hline 75 \end{array}$$

- Say:

  - Read the answer forward. (75)
  - Read the answer backward. (57)
  - Does it meet the conditions of the problem? (no)
  - After testing all possible answer choices we found that (c) was the only one that met all the conditions of the problem.

- Say: "In most mathematical problems we can use the answer choices to work backwards as one strategy to find the correct answer."

FOLLOW-UP:

. Duplicate and distribute Mathematics Worksheet 8.

. Say:

- Look at example 1.
- How will we solve this example? (multiply)

. Ask a student to rewrite example 1 in vertical format.

$$\begin{array}{r} 19 \\ \times\ \underline{8} \end{array}$$

. Ask a student to multiply:

$$\begin{array}{r} 19 \\ \times\ \underline{\ \ 8} \\ 152 \end{array}$$

. Say:

- Read the answer forward. (152)
- Read the answer backward. (251)
- Is it the same forward and backward? (no)
- Shall we circle it? (no)
- Why? (It does not meet the conditions of the directions.)

. Ask the students to continue this procedure for the other examples. Remind them to look at the symbol to choose the correct operation.

TEST:

Duplicate and distribute Mathematics Test--Lesson 8. Ask students to find and read the tip at the bottom of the test paper. Say: "Read the directions while I read them aloud. Does anyone have a question about the directions? REMEMBER! Every question must have an answer. Do not leave any answer blank. Please begin the test."

TEST ANALYSIS:

. Ask the students to look at question 1.

. Say:

- What kind of answer do we want? (one that reads the same forwards and backwards.)
- Let's try different answer choices.

  - Try answer choice (a).

$$\begin{array}{r} 731 \\ +\ 731 \\ \hline 1462 \end{array}$$

. Ask the students to add.

. Say:

  - Is the sum the same backwards and forwards? (no)
  - The student will see that answer choice (a) is not a good choice.

. Ask the students to try choice (b).

$$\begin{array}{r} 137 \\ +\ 731 \\ \hline 868 \end{array}$$

. They perform the addition and see that answer choice (b) is correct.

ADDITIONAL TEST ITEMS:

This skill can be utilized with most test items when the student is not comfortable using one of the strategies already presented.

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS WORKSHEET 8

Skill 8: Testing Answer Choices

Circle the problems whose answers read the same forwards and backwards.

1. 19 x 8 =

2. 163 + 236 =

3. 484 ÷ 4 =

4. 83 x 23 =

5. 489 - 156 =

6. 25 x 25 =

NAME: ______________________ CLASS: ____ DATE: ________

MATHEMATICS TEST--LESSON 8

Skill 8: Testing Answer Choices

1. Which pair of addends will give a sum that reads the same forward and backward?

○ a. 731 + 731
○ b. 137 + 731
○ c. 137 + 137
○ d. 137 + 713
○ e. NOT HERE

2. Which pair of factors will give a product that reads the same forward and backward?

○ f. 206 x 6
○ g. 390 x 3
○ h. 152 x 5
○ j. 207 x 2
○ k. NOT HERE

3. Which example will have a quotient that reads the same forward and backward?

○ a. 927   9
○ b. 505   5
○ c. 448   4
○ d. 637   7
○ e. NOT HERE

4. Which example will have a difference that reads the same forward and backward?

○ f. 648 - 466
○ g. 644 - 202
○ h. 846 - 202
○ j. 846 - 644
○ k. NOT HERE

TIP: Solve the problems by trying answer choices. Eliminate the choices that do not fit the conditions of the problem.

Test 6.01 Read, Write and Understand Large Numbers

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. Another way to show 7,548 is

ⓐ 7000 + 500 + 40 + 8

ⓑ 7 + 5 + 4 + 8

ⓒ 7,548 x 1000

ⓓ 7 x 5 x 4 x 8

ⓔ Not Here

2. Another way to show 856,231 is

ⓕ 8 x 5 x 6 x 2 x 3 x 1

ⓖ 856 x 231

ⓗ 800,000 + 50,000 + 6,000 + 200 + 30 + 1

ⓙ 856,231 x 100,000

ⓚ 8 + 5 + 6 + 2 + 3 + 1

3. Another way to show 56,890 is

ⓐ 5 + 6 + 8 + 9 + 0

ⓑ 5 x 6 x 8 x 9 x 0

ⓒ 50 + 6 + 800 + 90 + 0

ⓓ 50,000 + 6,000 + 800 + 90 + 0

ⓔ Not Here

4. Another way to show 7,436,241 is

ⓕ 7,000,000 + 400,000 + 30,000 + 6,000 + 200 + 40 + 1

ⓖ 7 x 4 x 3 x 6 x 2 x 4 x 1

ⓗ 7 + 4 + 3 + 6 + 2 + 4 + 1

ⓙ 7,436,241 x 1,000,000

ⓚ 7 + 436 + 241

5. 70,000 + 6,000 + 400 + 50 + 7 =

ⓐ 76 + 457

ⓑ 76 x 457

ⓒ 76,457

ⓓ 10,000 + 76,457

ⓔ Not Here

6. Another way to show 8,000 + 600 + 40 + 9 is

ⓕ 8,649

ⓖ 8 x 6 x 4 x 9

ⓗ 8 + 6 + 4 + 9

ⓙ 8,649 x 1,000

ⓚ 8,649 ÷ 1,000

7. 9,000,000 + 700,000 + 50,000 + 6,000 + 400 + 30 + 2 =

ⓐ 9 + 7 + 5 + 6 + 4 + 3 + 2

ⓑ 9 + 756 + 432

ⓒ 9,756,432 x 1,000,000

ⓓ 1,000,000 + 9,756,432

ⓔ Not Here

Go to the next page ▶

8. Another way to show 600,000 + 40,000 + 600 + 50 + 7 is

ⓕ 6 + 4 + 6 + 5 + 7
ⓖ 64,067
ⓗ 640,657
ⓙ 646 x 100
ⓚ 600 x 40 x 7

9. Another way to show 74,371 is

ⓐ $(7^5)+(4^4)+(3^3)+(7^2)+(1^1)$
ⓑ 70,000 x 371
ⓒ 7 + 4 + 3 + 7 + 1
ⓓ $(7x10^4)+(4x10^3)+(3x10^2)+(7x10^1)+(1x1)$
ⓔ 7 x 4 x 3 x 7 x 1

10. 9,658 =

ⓕ 9,000 x 658
ⓖ 9 + 6 + 5 + 8
ⓗ $(9x10^3)+(6x10^2)+(5x10^1)+(8x1)$
ⓙ 9 x 6 x 5 x 8
ⓚ Not Here

11. Another way to show 658,947 is

ⓐ $(6x10^5)+(5x10^4)+(8x10^3)+(9x10^2)+(4x10^1)+(7x1)$
ⓑ $(6^6)+(5^5)+(8^4)+(9^3)+(4^2)+(7^1)$
ⓒ 658 x 947
ⓓ 6 x 5 x 8 x 9 x 4 x 7
ⓔ 658,947 x 100,000

12. 865 =

ⓕ $865 x 10^2$
ⓖ 800 x 60 x 5
ⓗ $(8^3) + (6^2) + (5^1)$
ⓙ 865 x 100
ⓚ Not Here

13. Which number sentence is correct?

ⓐ 12,076,431 > 12,076,441
ⓑ 12,076,431 = 12,076,441
ⓒ 12,076,441 < 12,076,431
ⓓ 12,076,441 > 12,076,431
ⓔ 12,076,441 = 12,076,431

14. Which number sentence is incorrect?

ⓕ 8,657 > 8,756
ⓖ $100,000 = 10^5$
ⓗ 67,037 < 69,999
ⓙ 999 = 900 + 90 + 9
ⓚ 412,331 > 199,787

15. Which number sentence is correct?

ⓐ 1,234,777 > 1,234,770
ⓑ 1,234,777 < 1,234,770
ⓒ 1,234,777 = 1,234,770
ⓓ 1,234,770 > 1,234,777
ⓔ Not Here

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Experimental

Test 6.01 Read, Write and Understand Large Numbers

16. Which number sentence is correct?

ⓕ 5,432 = 2,345

ⓖ 87,651 > 87,651

ⓗ 965,765 < 965,675

ⓙ 49,144 = 49,144

ⓚ 367,241 < 367,241

17. Mr. Johnson's car odometer has 94,363 miles registered on it. Mr. Brown's car has 94,633 miles on it. Which number sentence tells which car has more miles on it?

ⓐ 94,363 > 94,633

ⓑ 94,363 = 94,633

ⓒ 94,363 < 94,633

ⓓ 94,363 + 94,633

ⓔ Not Here

18. The Gross National Product of the U.S. is $631,426,453. Which of the following tells how many dollars in the Gross National Product?

ⓕ 631 + 426 + 453

ⓖ $(6\times10^8)+(3\times10^7)+(1\times10^6)+(4\times10^5)+(2\times10^4)+(6\times10^3)+(4\times10^2)+(5\times10^1)+(3\times 1)$

ⓗ 6 + 3 + 1 + 4 + 2 + 6 + 4 + 5 + 3

ⓙ 6 x 3 x 1 x 4 x 2 x 6 x 4 x 5 x 3

ⓚ Not Here

19. The distance from the Earth to the moon is 249,525 miles. Which of the following expresses this distance?

ⓐ 200,000+40,000+9+5+2+5

ⓑ 200,000+40,000+9,000+500+20+5

ⓒ 2 + 4 + 9 + 5 + 2 + 5

ⓓ 249 x 525

ⓔ Not Here

20. There are 912,438 school children in New York City. Which of the following is equal to this number?

ⓕ 9 + 1 + 2 + 4 + 3 + 8

ⓖ 900,000 + 10,000 + 2,000

ⓗ 912 x 438

ⓙ $(9\times10^5)+(1\times10^4)+(2\times10^3)+(4\times10^2)+(3\times10^1)+(8\times1)$

ⓚ Not Here

STOP!

Test 6.02 Equations - Solution Sets - Exponents

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. The ☐ stands for what number?

$61 + \square = 66$

ⓐ 6
ⓑ 8
ⓒ 5
ⓓ 4
ⓔ Not Here

2. Which number sentence is an equation?

ⓕ $75 > 61$
ⓖ $37 + 10 = 47$
ⓗ $63 < 99$
ⓙ $35 \div 7$
ⓚ Not Here

3. What sign is missing from the following equation?

37 - 5 ? 32

ⓐ +
ⓑ -
ⓒ >
ⓓ =
ⓔ <

4. Which number sentence shows that when 17 is added to 12 the sum is 29?

ⓕ $17 > 12$
ⓖ $12 < 17$
ⓗ $17 - 12 = 5$
ⓙ $17 + 12 = 29$
ⓚ Not Here

5. Which equation is equivalent to $5n = 15$?

ⓐ $5n = 3$
ⓑ $n = 10$
ⓒ $10n = 30$
ⓓ $n = 5$
ⓔ $3n = 5$

6. The following equations have the same solution. What is the solution?

$6n = 12$
$3n = 6$

ⓕ $n = 6$
ⓖ $n = 3$
ⓗ $n = 12$
ⓙ $n = 2$
ⓚ Not Here

7. The solution $n = 4$ is correct for each equation except ____.

ⓐ $10n = 40$
ⓑ $3n = 12$
ⓒ $4n = 12$
ⓓ $9n = 36$
ⓔ $5n = 20$

8. Which of the following equations is not equivalent to the given equation?

$2n = 10$

ⓕ $3n = 15$
ⓖ $4n = 20$
ⓗ $6n = 30$
ⓙ $3n = 9$
ⓚ Not Here

Go to the next page ▶

Test 6.02 Equations - Solution Sets - Exponents

9. Another way to express 3^3 is _____.

ⓐ 3 x 3
ⓑ 3 + 3
ⓒ 9
ⓓ 27
ⓔ Not Here

10. Another name for 5^4?

ⓕ 5 + 4
ⓖ 5 x 4
ⓗ 5 + 5 + 5 + 5
ⓙ 625
ⓚ 20

11. Another name for 10^3?

ⓐ 30
ⓑ 100
ⓒ 300
ⓓ 10 + 10 + 10
ⓔ Not Here

12. Another way to express 4^4 is _____.

ⓕ 16
ⓖ 4 + 4 + 4 + 4
ⓗ 256
ⓙ 4 x 4
ⓚ 8

STOP!

Test 6.03 Prime Numbers - Patterns - Perimeter of Polygons

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. Which of the following is a prime number?

ⓐ 4
ⓑ 9
ⓒ 7
ⓓ 12
ⓔ 15

2. Which of the following is not a prime number?

ⓕ 19
ⓖ 5
ⓗ 11
j 21
k 29

3. Choose the set of prime numbers.

ⓐ {2, 3, 4, 5}
ⓑ {2, 4, 6, 8, 10}
ⓒ {2, 5, 7, 9, 12}
ⓓ {2, 5, 7, 11}
ⓔ {3, 5, 7, 9, 11, 13}

4. Choose the set of numbers which are not prime.

ⓕ {5, 10, 15, 20, 25}
ⓖ {7, 11, 19, 29, 31}
ⓗ {101, 201, 301, 401}
ⓙ {11, 19, 21, 51}
ⓚ Not Here

In questions 5-8, find the missing number in the following patterns.

5. 9, 12, 15, 18, ____, 24, 27

ⓐ 20
ⓑ 19
ⓒ 21
ⓓ 23
ⓔ 22

6. 63, 58, 53, 48, ____

ⓕ 33
ⓖ 40
ⓗ 38
ⓙ 43
ⓚ Not Here

7. 8, 15, 22, 29, ____, 43

ⓐ 35
ⓑ 36
ⓒ 40
ⓓ 42
ⓔ 30

8. 17, 20, 19, 22, 21, 24, ____

ⓕ 26
ⓖ 30
ⓗ 32
ⓙ 23
ⓚ Not Here

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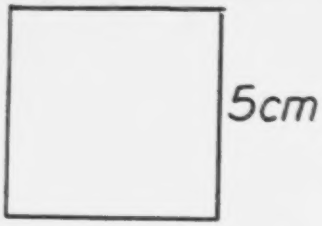
Test 6.03 Prime Numbers - Patterns - Perimeter of Polygons

9. What is the perimeter of the square drawn below?



ⓐ 5 cm

ⓑ 10 cm

ⓒ 15 cm

ⓓ 20 cm

ⓔ Not Here

10. To find the perimeter of a regular hexagon having a side of 3 cm you would use the number sentence ____.

ⓕ P ⬡ = 6 cm + 3 cm

ⓖ P ⬡ = 9 cm

ⓗ P ⬡ = 6 x 3 cm

ⓙ P ⬡ = 12 cm

ⓚ P ⬡ = 3 cm

11. What is the perimeter of an equilateral triangle whose side is 9 inches?

ⓐ 81 inches

ⓑ 18 inches

ⓒ 36 inches

ⓓ 27 inches

ⓔ Not Here

12. What is the perimeter of a regular pentagon if one side measures 6 inches?

ⓕ 18 inches

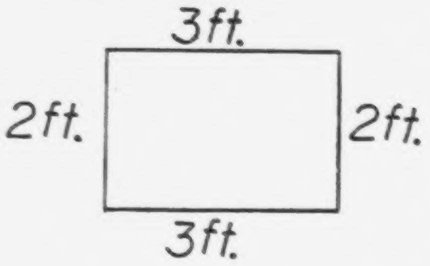
ⓖ 24 inches

ⓗ 36 inches

ⓙ 12 inches

ⓚ 30 inches

13. The perimeter of the following figure is ____.



ⓐ 12 ft.

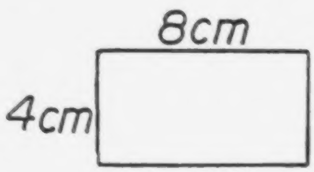
ⓑ 24 ft.

ⓒ 6 ft.

d 10 ft.

e Not Here

14. What is the perimeter of the following rectangle?



ⓕ 32 cm

ⓖ 24 cm

ⓗ 12 cm

j 16 cm

k 20 cm

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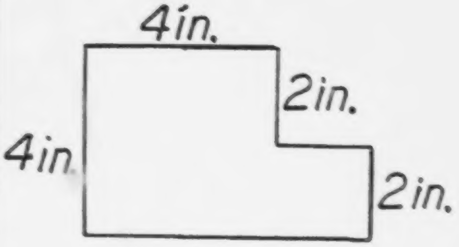
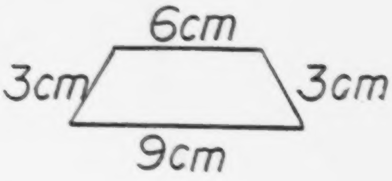
Test 6.03 Prime Numbers - Patterns - Perimeter of Polygons

15. What is the perimeter of the following figure?



ⓐ 16 in.
ⓑ 14 in.
ⓒ 12 in.
ⓓ 20 in.
ⓔ Not Here

16. The perimeter of the following figure is



ⓕ 19 cm
ⓖ 21 cm
ⓗ 15 cm
ⓙ 12 cm
ⓚ 20 cm

17. Angela is planning to plant a rectangular flower bed. She decided to build her flower bed 10 feet long and 5 feet wide. What is the perimeter of Angela's flower bed?

ⓐ 50 feet
ⓑ 15 feet
ⓒ 30 feet
ⓓ 20 feet
ⓔ 25 feet

18. Mr. Thompson decided to place a fence around his lawn. The lawn is a rectangle and measures 20 feet by 12 feet. How much fencing material should Mr. Thompson buy?

f 44 feet
g 32 feet
h 240 feet
j 120 feet
k Not Here

19. Martin's school is in the shape of a rectangle 125 feet long and 75 feet wide. What is the perimeter of Martin's school?

a 200 feet
b 250 feet
c 400 feet
d 150 feet
e 325 feet

20. Michael has a vegetable garden in the shape of a rectangle. The garden measures 7.5 ft. long and 4.5 ft. wide. Michael bought 30 feet of fencing material for his garden. How much fencing material will be left after Michael fences in his garden?

f 6 feet
g 12 feet
h 24 feet
j 54 feet
k Not Here

STOP!

Test 6.04 Prime Factors - Estimate Fractions - Subtract Fractions

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. 62 renamed as the product of primes is

ⓐ 62 x 1
ⓑ 6 x 2
ⓒ 31 x 2
ⓓ 2 x 3 x 2
ⓔ 60 + 2

2. 100 can be expressed as the product of primes in the following way ____.

ⓕ 10 x 10
ⓖ 5 x 5 x 2 x 2
ⓗ 20 x 5
ⓙ 25 x 4
ⓚ 50 x 2

3. 27 can be renamed as the product of primes in the following way ____.

ⓐ 3 x 9
ⓑ 3 + 3 + 3
ⓒ 27 x 1
ⓓ 9 + 9 + 9
ⓔ Not Here

4. 81 can be expressed as the product of primes in the following way ____.

f 27 x 3
g 9 + 9 + 9
h 9 x 9
j 3 x 3 x 3 x 3
k Not Here

5 The prime factors of 48 are ____.

a 6 x 8
b 3 x 2 x 8
c 8 x 3 x 2
d 4 x 2 x 2 x 3
e 3 x 2 x 2 x 2 x 2

6. Which of the following expresses the prime factorization of 56?

f 7 x 8
g 8 + 7
h 4 x 2 x 7
j 7 x 8 x 1
k Not Here

7. The greatest common factor of 12 and 16 is ____.

a 3
b 2
c 2^2
d 8
e 6

Go to the next page ▶

Test 6.04 Prime Factors - Estimate Fractions - Subtract Fractions

8. Which of the following is the greatest common factor of 9 and 27?

ⓕ 3
ⓖ 6
ⓗ 9
ⓙ 1
ⓚ Not Here

9. The best estimate for the sum $5\frac{1}{3} + 2\frac{2}{7}$ is ____.

ⓐ 3
ⓑ 9
ⓒ 7
ⓓ 11
ⓔ 6

10. The approximate difference $6\frac{3}{8} - 2\frac{1}{3}$ is ____.

ⓕ 5
ⓖ 3
ⓗ 8
ⓙ 4
ⓚ Not Here

11. The best estimate for the sum $25\frac{5}{8} + 13\frac{1}{3}$ is ____.

ⓐ 35
ⓑ 12
ⓒ 39
ⓓ 40
ⓔ 30

12. The approximate difference $47\frac{1}{9} - 22\frac{1}{3}$ is ____.

ⓕ 69
ⓖ 25
ⓗ 37
ⓙ 50
ⓚ Not Here

13. Joseph walked $1\frac{2}{5}$ miles to the swimming pool. After swimming a while, he walked $2\frac{1}{3}$ miles to his cousin's house. Approximately how many miles did Joseph walk in all?

ⓐ 5 miles
ⓑ 3 miles
ⓒ 2 miles
ⓓ 8 miles
ⓔ 11 miles

14. Mr. Thompson ordered 50 pounds of flour for his bakery. He used $20\frac{1}{8}$ pounds of flour to make bread. Approximately how many pounds of flour are left?

ⓕ 70 pounds
ⓖ 20 pounds
ⓗ 30 pounds
ⓙ 50 pounds
ⓚ 25 pounds

15. Carl bicycled $5\frac{3}{8}$ miles to visit his friend William. William and Carl then bicycled $8\frac{1}{3}$ miles to the park. Approximately how many miles did Carl bicycle?

ⓐ 13 miles
ⓑ 15 miles
ⓒ 3 miles
ⓓ 8 miles
ⓔ 10 miles

16. Mrs. Jones drove 45 miles on Saturday. Mr. Jones drove $21\frac{1}{10}$ miles on that same day. Approximately how many more miles did Mrs. Jones drive than Mr. Jones?

ⓕ 35 miles
ⓖ 24 miles
ⓗ 60 miles
ⓙ 66 miles
ⓚ Not Here

Go to the next page

Test 6.04 Prime Factors - Estimate Fractions - Subtract Fractions

17. Compute the difference. Express the answer in simplest form.

$$\boxed{\begin{array}{r} 5 \\ -3\frac{1}{8} \\ \hline \end{array}}$$

ⓐ $8\frac{1}{8}$

ⓑ $2\frac{7}{8}$

ⓒ $10\frac{1}{8}$

ⓓ $8\frac{7}{8}$

ⓔ $1\frac{7}{8}$

18. Compute the difference. Express the answer in simplest form.

$$\boxed{\begin{array}{r} 9 \\ -5\frac{1}{2} \\ \hline \end{array}}$$

ⓕ $4\frac{1}{2}$

ⓖ $3\frac{1}{2}$

ⓗ $13\frac{1}{2}$

ⓙ $14\frac{1}{2}$

ⓚ $5\frac{1}{2}$

19. Compute the difference. Express the answer in simplest form.

$$\boxed{\begin{array}{r} 8 \\ -3\frac{2}{10} \\ \hline \end{array}}$$

ⓐ $11\frac{2}{10}$

ⓑ $4\frac{8}{10}$

ⓒ $5\frac{2}{10}$

ⓓ $4\frac{4}{5}$

ⓔ Not Here

20. Compute the difference. Express the answer in simplest form.

$$\boxed{\begin{array}{r} 4 \\ -2\frac{1}{4} \\ \hline \end{array}}$$

f $6\frac{1}{4}$

g $2\frac{1}{8}$

h $2\frac{7}{8}$

j $1\frac{1}{4}$

k $1\frac{3}{4}$

21. Compute the difference.

$$\boxed{\begin{array}{r} 7\frac{1}{2} \\ -2\frac{1}{3} \\ \hline \end{array}}$$

a $9\frac{5}{6}$

b $4\frac{1}{6}$

c $3\frac{1}{6}$

d $5\frac{1}{6}$

e $8\frac{5}{6}$

22. Compute the difference.

$$\boxed{\begin{array}{r} 13\frac{1}{4} \\ -11\frac{1}{2} \\ \hline \end{array}}$$

f $2\frac{1}{4}$

g $22\frac{2}{6}$

h $1\frac{3}{4}$

j $2\frac{1}{2}$

k Not Here

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Test 6.04 Prime Factors - Estimate Fractions - Subtract Fractions

23. Compute the difference.

$$\boxed{\begin{array}{r} 7\frac{1}{3} \\ -1\frac{3}{4} \\ \hline \end{array}}$$

ⓐ $6\frac{2}{4}$

ⓑ $5\frac{7}{12}$

ⓒ $8\frac{4}{4}$

ⓓ 8

ⓔ Not Here

24. Compute the difference. Express the answer in simplest form.

$$\boxed{\begin{array}{r} 9\frac{1}{12} \\ -3\frac{1}{3} \\ \hline \end{array}}$$

ⓕ $12\frac{2}{15}$

ⓖ $5\frac{9}{12}$

ⓗ $6\frac{1}{9}$

ⓙ $5\frac{3}{4}$

ⓚ Not Here

25. Mr. Harris has 5 yards of material. He will need $2\frac{1}{2}$ yards to make a pair of trousers. How many yards of material will be left after he makes the trousers?

ⓐ $4\frac{1}{2}$ yards

ⓑ $2\frac{1}{2}$ yards

ⓒ 3 yards

ⓓ $7\frac{1}{2}$ yards

ⓔ Not Here

26. Anthony bicycled $7\frac{1}{2}$ miles. John bicycled $3\frac{1}{3}$ yards. How many more miles did Anthony bicycle than John?

ⓕ 4 miles

ⓖ $10\frac{2}{5}$ miles

ⓗ $4\frac{1}{2}$ miles

ⓙ $4\frac{1}{6}$ miles

ⓚ $5\frac{1}{6}$ miles

27. Mr. Williams jogged $8\frac{1}{4}$ miles on Tuesday. Mrs. Williams jogged 10 miles on Wednesday. How many more miles did Mrs. Williams jog than Mr. Williams?

ⓐ $18\frac{1}{4}$ miles

ⓑ $\frac{1}{4}$ miles

ⓒ $1\frac{3}{4}$ miles

ⓓ $2\frac{1}{4}$ miles

ⓔ Not Here

28. Sarah's skirt pattern calls for $3\frac{1}{2}$ yards of material. She has $1\frac{2}{3}$ yards of material. How many more yards of material does she need?

ⓕ $1\frac{5}{6}$

ⓖ $1\frac{2}{5}$

ⓗ $2\frac{1}{3}$

ⓙ $4\frac{5}{6}$

ⓚ $4\frac{2}{5}$

STOP!

Test 6.05 **Measurement - Decimal Notation**

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. 3 hours and 15 minutes is equal to ____.

ⓐ 12 minutes
ⓑ $3\frac{1}{4}$ minutes
ⓒ 18 minutes
ⓓ 195 minutes
ⓔ 200 minutes

2. Convert 6 hours and 20 minutes to minutes.

ⓕ 26 minutes
ⓖ $6\frac{1}{3}$ minutes
ⓗ 380 minutes
ⓙ 340 minutes
ⓚ Not Here

3. $5\frac{1}{2}$ hours is equivalent to how many minutes?

ⓐ 330 minutes
ⓑ 35 minutes
ⓒ 45 minutes
ⓓ 270 minutes
ⓔ 90 minutes

4. 10 hours and 50 minutes is equal to ____.

ⓕ 600 minutes
ⓖ 550 minutes
ⓗ $10\frac{1}{2}$ minutes
ⓙ 500 minutes
ⓚ Not Here

5. Compute the product and express the answer in simplest form.

1 pound 6 ounces
x 5

ⓐ 5 pounds 14 ounces
ⓑ 6 pounds 30 ounces
ⓒ 6 pounds 14 ounces
ⓓ 7 pounds
ⓔ 35 ounces

6. Compute the product and express your answer in simplest form.

3 pounds 8 ounces
x 6

ⓕ 22 pounds
ⓖ 18 pounds 4 ounces
ⓗ 20 pounds 8 ounces
ⓙ 21 pounds
ⓚ Not Here

7. Compute the product and express the answer in simplest form.

15 ounces
x9

ⓐ 135 pounds
ⓑ 9 pounds 15 ounces
ⓒ 6 pounds 7 ounces
ⓓ 7 pounds 8 ounces
ⓔ 8 pounds 7 ounces

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8. Compute the product and express the answer in simplest form.

$$\begin{array}{r} \text{5 pounds 9 ounces} \\ \times\ 9 \\ \hline \end{array}$$

- ⓕ 49 pounds
- ⓖ 49 pounds 1 ounce
- ⓗ 45 pounds 1 ounce
- ⓙ 50 pounds 1 ounce
- ⓚ Not Here

9. Complete the following multiplication and express the answer in simplest form.

$$\begin{array}{r} \text{4 quarts 1 pint} \\ \times\ 5 \\ \hline \end{array}$$

- ⓐ 4 quarts 5 pints
- ⓑ 22 quarts 1 pint
- ⓒ 20 quarts 1 pint
- ⓓ 21 quarts
- ⓔ Not Here

10. Complete the following multiplication and express the answer in simplest form.

$$\begin{array}{r} \text{8 gallons 3 quarts} \\ \times\ 6 \\ \hline \end{array}$$

- ⓕ 52 gallons
- ⓖ 50 gallons
- ⓗ 52 gallons 2 quarts
- ⓙ 48 gallons 2 quarts
- ⓚ 51 gallons

11. Compute the product and express the answer in simplest form.

$$\begin{array}{r} \text{1 gallon 2 quarts 1 pint} \\ \times\ 8 \\ \hline \end{array}$$

- ⓐ 8 gallons 18 quarts
- ⓑ 8 gallons 16 quarts
- ⓒ 12 gallons 8 pints
- ⓓ 12 gallons
- ⓔ Not Here

12. Compute the product and express the answer in simplest form.

$$\begin{array}{r} \text{3 gallons 3 quarts 1 pint} \\ \times\ 7 \\ \hline \end{array}$$

- ⓕ 27 gallons
- ⓖ 21 gallons
- ⓗ 27 gallons 1 pint
- ⓙ 21 gallons 1 pint
- ⓚ 24 gallons

For example 13, complete the multiplication and express the answer in simplest form.

13.
$$\begin{array}{r} \text{4 feet 5 inches} \\ \times\ 4 \\ \hline \end{array}$$

- ⓐ 16 feet 8 inches
- ⓑ 5 yards 2 feet 8 inches
- ⓒ 36 inches
- ⓓ 36 feet
- ⓔ 21 feet

Go to the next page ▶

For examples 14-16, complete the multiplication and express the answer in simplest form.

14. 5 yards 2 feet
x 7

ⓕ 35 yards 2 feet

ⓖ 39 yards

ⓗ 37 yards

ⓙ 39 yards 2 feet

ⓚ Not Here

15. 4 yards 1 foot 6 inches
x 5

ⓐ 22 yards 1 foot 6 inches

ⓑ 20 yards 5 feet

ⓒ 20 yards 30 inches

ⓓ 21 yards 2 feet

ⓔ 21 yards 2 feet 6 inches

16. 6 yards 2 feet 4 inches
x 6

ⓕ 42 yards

ⓖ 36 yards 24 inches

ⓗ 36 yards 12 feet

ⓙ 40 yards 2 feet

ⓚ Not Here

17. A centimeter is ____.

ⓐ 100 meters

ⓑ 10 meters

ⓒ $\frac{1}{100}$ of a meter

ⓓ $\frac{1}{10}$ of a meter

ⓔ Not Here

18. A milliliter is ____.

ⓕ 1000 liters

ⓖ 100 liters

ⓗ 10 liters

ⓙ $\frac{1}{100}$ of a liter

ⓚ $\frac{1}{1000}$ of a liter

19. A kilogram is ____.

ⓐ $\frac{1}{1000}$ of a gram

ⓑ $\frac{1}{100}$ of a gram

ⓒ $\frac{1}{10}$ of a gram

ⓓ 100 grams

ⓔ 1000 grams

20. A centiliter is ____.

ⓕ 100 liters

ⓖ 10 liters

ⓗ $\frac{1}{100}$ of a liter

ⓙ $\frac{1}{10}$ of a liter

ⓚ Not Here

Go to the next page ▶

21. A yard is a little less than a ____.

ⓐ foot
ⓑ inch
ⓒ mile
ⓓ meter
ⓔ Not Here

22. A quart is a little less than a ____.

ⓕ cup
ⓖ pint
ⓗ gallon
ⓙ liter
ⓚ milliliter

23. A pound is a little less than half a ____.

ⓐ ounce
ⓑ ton
ⓒ gram
ⓓ kilogram
ⓔ Not Here

24. A mile is about ____.

ⓕ 1.6 yards
ⓖ 1.6 meters
ⓗ 1.6 centimeters
ⓙ 1.6 kilometers
ⓚ 1.6 decimeters

25. $\frac{1}{5}$ is equivalent to which of the following decimal fractions?

ⓐ 0.5
ⓑ 1.4
ⓒ 0.2
ⓓ 2.0
ⓔ 0.15

26. Which decimal fraction is equivalent to $\frac{2}{5}$?

ⓕ 2.5
ⓖ 0.10
ⓗ 1.0
ⓙ 0.4
ⓚ Not Here

27. Another way to name $\frac{1}{50}$ is ____.

ⓐ 0.5
ⓑ 5.0
ⓒ 50
ⓓ 0.02
ⓔ 1.50

28. Which decimal fraction is equivalent to $\frac{6}{25}$?

ⓕ 0.25
ⓖ 2.4
ⓗ 2.25
ⓙ 0.24
ⓚ Not Here

Go to the next page ▶

29. $\frac{225}{1000}$ is equivalent to ____.

Ⓐ 225,000
Ⓑ 0.000225
Ⓒ 2.25
Ⓓ 22.5
Ⓔ 0.225

30. 6 $\frac{125}{1000}$ is equivalent to ____.

Ⓕ 6,125
Ⓖ 0.6125
Ⓗ 6,125,000
Ⓙ 6.125
Ⓚ Not Here

31. Another way to name $\frac{357}{1000}$ is ____.

Ⓐ 0.357
Ⓑ 357,000
Ⓒ .000357
Ⓓ 35.7
Ⓔ 3.57

32. Another way to name 8 $\frac{456}{1000}$ is ____.

Ⓕ 8.000456
Ⓖ 0.8456
Ⓗ 8,456,000
Ⓙ 8,456
Ⓚ Not Here

STOP!

Test 6.06 Compare Decimals - Round Decimals - Percent - Circles

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. 0.39 is one hundredth more than ____.

ⓐ 0.40
ⓑ 0.38
ⓒ 0.29
ⓓ 0.49
ⓔ Not Here

2. 0.56 is one hundredth less than ____.

ⓕ 0.55
ⓖ 0.57
ⓗ 0.46
ⓙ 0.66
ⓚ 0.58

3. One thousandth more than 0.128 is ____.

ⓐ 0.228
ⓑ 0.127
ⓒ 0.138
ⓓ 0.129
ⓔ Not Here

4. One thousandth less than 0.468 is ____.

ⓕ 0.368
ⓖ 0.458
ⓗ 0.457
ⓙ 0.367
ⓚ 0.467

5. 0.37 rounded to the nearest tenth is ____.

ⓐ 0.47
ⓑ 0.38
ⓒ 0.4
ⓓ 0.8
ⓔ Not Here

6. 46.89 rounded to the nearest tenth is ____.

ⓕ 50.0
ⓖ 46.99
ⓗ 46.9
ⓙ 56.9
ⓚ 47.89

7. 60.91 rounded to the nearest tenth is ____.

ⓐ 60.9
ⓑ 61.0
ⓒ 70.0
ⓓ 61.9
ⓔ Not Here

8. 59.99 rounded to the nearest tenth is ____.

ⓕ 59.9
ⓖ 59.00
ⓗ 59.100
ⓙ 69.99
ⓚ 60.0

Go to the next page ▶

Test 6.06 Compare Decimals - Round Decimals - Percent - Circles

9. Round 6.328 to the nearest hundredth.

ⓐ 6.42
ⓑ 6.38
ⓒ 6.32
ⓓ 6.34
ⓔ 6.33

10. Round 8.198 to the nearest hundredth.

ⓕ 8.29
ⓖ 8.28
ⓗ 8.21
ⓙ 8.19
ⓚ Not Here

11. Round 37.158 to the nearest hundredth.

ⓐ 37.15
ⓑ 38.06
ⓒ 37.18
ⓓ 37.20
ⓔ 37.16

12. Round 49.965 to the nearest hundredth.

ⓕ 49.09
ⓖ 49.97
ⓗ 49.96
ⓙ 50.00
ⓚ Not Here

13. 20% renamed as a decimal is ____.

ⓐ 0.2
ⓑ 2.0
ⓒ 20.0
ⓓ 0.02
ⓔ Not Here

14. 12% renamed as a decimal is ____.

ⓕ 12
ⓖ 1.2
ⓗ .12
ⓙ 120.0
ⓚ 1200.0

15. 75% renamed as a decimal is ____.

ⓐ 75.0
ⓑ 7.5
ⓒ 0.75
ⓓ 0.075
ⓔ Not Here

16. 241% renamed as a decimal is ____.

ⓕ 241.0
ⓖ 24.10
ⓗ 2.41
ⓙ 0.241
ⓚ 2410.0

Go to the next page ▶

Test 6.06 Compare Decimals - Round Decimals - Percent - Circles

17. The fraction $\frac{1}{3}$ written as a percent is ____.

ⓐ $33\frac{1}{3}$%
ⓑ 31%
ⓒ 30%
ⓓ 13%
ⓔ Not Here

18. The fraction $\frac{2}{5}$ written as a percent is ____.

ⓕ 25%
ⓖ 52%
ⓗ 40%
ⓙ 20%
ⓚ 50%

19. The decimal .12 written as a percent is ____.

ⓐ 12%
ⓑ 8%
ⓒ 18%
ⓓ 1%
ⓔ Not Here

20. The decimal .375 written as a percent is ____.

ⓕ 38%
ⓖ 83%
ⓗ 3%
ⓙ 8%
ⓚ $37\frac{1}{2}$%

21. There are 30 students in Joan's class. 12 students are boys. What percent of the class is boys?

ⓐ 12%
ⓑ 30%
ⓒ 40%
ⓓ 50%
ⓔ Not Here

22. Walter spent 1 hour and 20 minutes to complete his homework. His mathematics homework took 30 minutes. What percent of the total time did his mathematics homework take?

ⓕ 35%
ⓖ 37%
ⓗ $37\frac{1}{2}$%
ⓙ 38%
ⓚ Not Here

23. James played a total of 7 hours and 30 minutes last week. He played 45 minutes on Monday. What percent of the total time did his Monday play take?

ⓐ 30%
ⓑ 36%
ⓒ 10%
ⓓ 45%
ⓔ Not Here

24. Carolyn saved \$13.50. \$4.50 was saved in quarters. What percent of Carolyn's money was saved in quarters?

ⓕ 30%
ⓖ 45%
ⓗ $33\frac{1}{3}$%
ⓙ $13\frac{1}{2}$%
ⓚ $4\frac{1}{2}$%

STOP!

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Appendix A:
Communication Arts and Mathematics Answer Sheets

Name________________________________ Class ________________

Test ________________________________ Date ________________

COMMUNICATION ARTS TEST ANSWER SHEET

LAST NAME											FIRST NAME						MI

1 ⓐ ⓑ ⓒ ⓓ
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42 ⓐ ⓑ ⓒ ⓓ
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44 ⓐ ⓑ ⓒ ⓓ
45 ⓐ ⓑ ⓒ ⓓ

☐ MATHEMATICS TEST ANSWER SHEET ☐

STUDENT NAME DISTRICT

BOARD OF EDUCATION CITY OF NEW YORK

STUDENT NUMBER									TEST						CLASS			GRADE			SCHOOL		
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
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9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9

GOOD MARKS ● ● ● ● ●

BAD MARKS Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

READ EACH QUESTION AND LETTERED ANSWERS. WHEN YOU HAVE DECIDED WHICH ANSWER IS CORRECT FILL IN THE CORRESPONDING CIRCLE. IF YOU CHANGE YOUR MIND, ERASE COMPLETELY. MAKE NO STRAY MARKS.

1 Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
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Appendix B:
Communication Arts Student Passages

Mechanics Skill 2: Skimming and scanning

Directions: Read the following paragraph. Darken the oval next to the main idea.

Helicopters are excellent in rescue work. They can pick a man out of the sea, off a ship, or off a tall mountain peak. Another use of the helicopter is to carry passengers from the roof tops of city buildings to airports, thus avoiding traffic. They carry supplies to places having no landing fields or roads. Power companies use helicopters to inspect long power lines in wilderness areas.

What is this passage mainly about?

○ a. helicopters can carry supplies
○ b. helicopters have many uses
○ c. helicopters help tell us about the best route to work
○ d. the Army uses helicopters

Directions: Read the passage. Read the question that follows and darken the oval next to the correct answer.

As in any sport, basketball has its stars and memorable moments. For those in attendance, it was an unforgettable night in March 1962 when the Philadelphia Warriors played the New York Knickerbockers in Hershey, Pennsylvania. The fans admired Wilt Chamberlain because he had broken all scoring records. But Chamberlain broke his own record that night. When the game ended, the Warriors had won 169-147. Wilt Chamberlain had scored 100 points in the game!

Where did the Warriors and the Knickerbockers play?

○ a. Philadelphia
○ b. New York
○ c. Warrensville
○ d. Hershey

Communication Arts Skill 2: Finding the main idea

Jose, who is thirteen, wants to be a jockey. He loves to ride horses. He can imagine himself entering the homestretch with the crowd cheering and the other horses far behind. Jose saves the money he earns working after school to go horseback riding. He rides every weekend.

Harriet Tubman was the most famous "conductor" on the Underground Railroad. This was a system which led southern Black slaves to freedom in the early 1800s. Born a slave in Maryland, Tubman worked as a field hand until about 1847, when she escaped to Pennsylvania. This brave woman organized numerous trips to the South, and she lead approximately 300 slaves to freedom.

Tubman is also famous for her military heroics. She is the only American woman to have led a military attack. This occurred during the Civil War when she served as a scout for the Union army. While commanding 300 Union troops in 1863, Harriet Tubman led a successful raid into Confederate territory which freed nearly 800 slaves.

a. Harriet Tubman: A Military Commander
b. Harriet Tubman and the Underground Railroad
c. Slavery in the South
d. An American Heroine

The second paragraph is mainly about:

a. Harriet Tubman's role in the Civil War
b. how 800 slaves were freed
c. Harriet Tubman's fight against slavery
d. how Harriet Tubman served as a "conductor" on the Underground Railroad

Communication Arts Student Passages

Communication Arts Skill 3: Using words that signal cause and effect

1. The storm had raged all night. Rain flooded the valley. Due to high winds, the telephone lines were knocked down.

2. The doctor was relaxing at home after seeing patients all day. It was late when the hospital called her, and she left for the emergency room.

3. The student received a high score, because he studied a lot. Study is an important part of school life.

4. Because of the snowstorm, the schools were closed. The weather report called for six more inches of snow.

5. As a result of the school election, Sandy became president of the student council. She was the first girl to be elected.

Communication Arts Skills 5: Using words that signal sequence

New York - In the first quarter of the game, Tatu scored three goals for Tampa Bay. Peter Roe and Greg Thompson each scored twice for the Cosmos.

In the second quarter, the Cosmos scored four consecutive goals in less than six minutes. The third quarter saw Tampa Bay score six consecutive goals. In the final quarter of the game, Terlicki, Karpur, and Tatu all scored. The final score was Tampa Bay 12, Cosmos 8.

Communication Arts Skill 6: Predicting outcomes

MIAMI, Dec. 26--Citrus and vegetable growers in Florida, Texas and Louisiana reported damage in the tens of millions of dollars today after a record cold wave hung icicles from golden fruit and turned green vegetable fields brown.

What will the farmers probably do?

a. Sell the brown vegetables.
b. Raise their prices for the crop they can sell.
c. Sell it as frozen food.
d. Wait for warm weather.

Communication Arts Skill 7: Interpreting figurative language in prose and poetry

As I walked home, the storm began. First the wind struck me with the force of a prizefighter's fist. Its claws snatched at my clothes as I bent forward resisting its explosive burst of force. Suddenly I could not breathe. I turned my head gasping as it snatched the air from my lungs like a giant vacuum pump. Finally, I succeeded in reaching the house by walking backwards, all the while feeling the wind thump on my back like a thousand horses straining for the finish line.

Dreams

Hold fast to dreams
For if dreams die
Life is a broken-winged bird
That cannot fly.

Hold fast to dreams
For when dreams go
Life is a barren field
Frozen with snow.

Communication Skill 8: Analyzing vocabulary test questions

Directions: Read the passage and answer the question that follows.

In the early 1930s, the biggest fad, popular practice or hobby, was marathon dancing. Couples competed against each other to see who could dance the longest until they dropped out because of fatigue. Some couples did not last more than a few hours, while others endured days and weeks. After a few days of dancing, contestants often became edgy, and arguments, disagreements, or altercations broke out. They kept going because they were destitute. They needed the prize money to pay bills or buy things they needed. They couldn't get jobs and had already used up their savings.

In this passage the word altercations means:

○ a. dances
○ b. prizes
○ c. arguments
○ d. fads

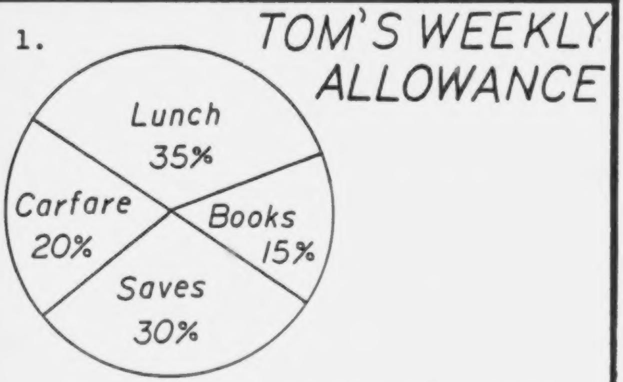
Appendix C:
Mathematics Practice Tests

Experimental

Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

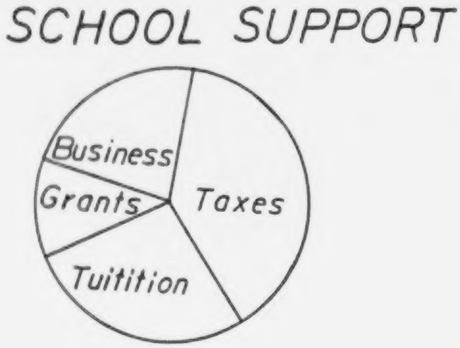
1.



What percent of his allowance does Tom spend on carfare?

ⓐ 40%
ⓑ 25%
ⓒ 20%
ⓓ 15%
ⓔ Not Here

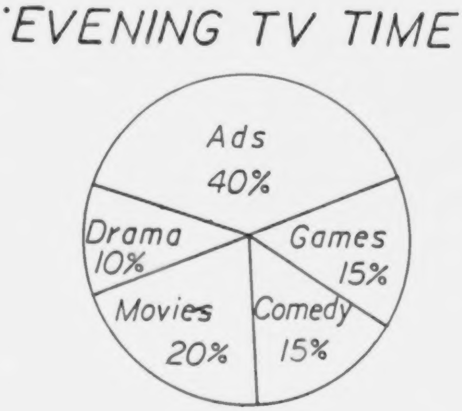
2.



The least amount of support comes from

ⓕ taxes
ⓖ tuition
ⓗ business
ⓙ grants
ⓚ Not Here

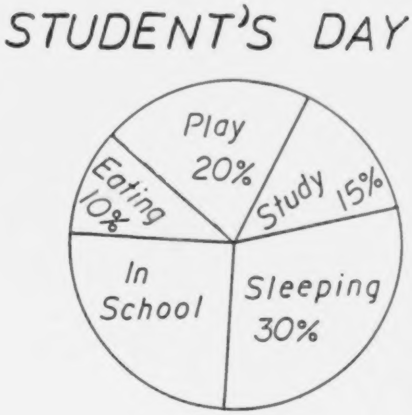
3.



What percent of the time is spent on movies and drama?

ⓐ 40%
ⓑ 30%
ⓒ 15%
ⓓ 20%
ⓔ 10%

4.



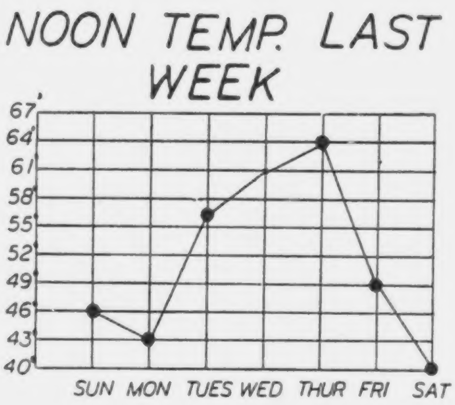
What percent of the day does a student spend in school?

ⓕ 25%
ⓖ 15%
ⓗ 30%
ⓙ 20%
ⓚ 35%

Go to the next page ▶

Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

Use the following graph to answer questions 5 and 6.



5. What was the warmest day?

ⓐ Monday
ⓑ Thursday
ⓒ Wednesday
ⓓ Friday
ⓔ Not Here

6. The line graph above is better to use than a bar graph because

ⓕ the numbers are small

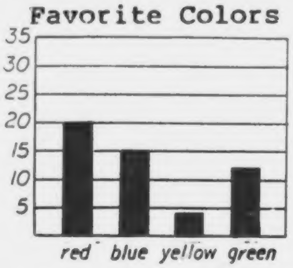
ⓖ temperatures are always changing

ⓗ seven bars are too many to draw

ⓙ it looks better

ⓚ Not Here

7.



The number of people who chose blue as a favorite color was

ⓐ 4
ⓑ 11
ⓒ 20
ⓓ 15
ⓔ 30

8. The best kind of graph to show how I spend 100% of my allowance is a

ⓕ line graph
ⓖ pictograph
ⓗ circle graph
ⓙ bar graph
ⓚ Not Here

9. Ann needs 2 yards of ribbon to wrap a package. If ribbon costs 12¢ a yard; to find the cost of wrapping 5 packages we must

ⓐ FIRST multiply 5 x 12¢
THEN add 2 yards

ⓑ FIRST multiply 5 x 2 yds.
THEN multiply by 12¢

ⓒ FIRST add 2 and 5
THEN add 12¢

ⓓ FIRST add 2 yds. and 12¢
THEN add 12¢

ⓔ Not Here

Go to the next page ▶

Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

10. Tony had $5. He bought a pen for 89¢ and an eraser for 25¢. To find how much he has left we must

ⓕ FIRST subtract 89¢ from $5
THEN add 25¢

ⓖ FIRST add 89¢ and 25¢
THEN add $5

ⓗ FIRST subtract 25¢ from 89¢
THEN subtract 25¢ from $5

ⓙ FIRST add 89¢ and 25¢
THEN subtract that amount from $5

ⓚ Not Here

11. Eggs are 99¢ a dozen. How much will 84 eggs cost?

ⓐ FIRST multiply 99¢ by 12
THEN divide by 84

ⓑ FIRST divide 84 by 12
THEN multiply by 99¢

ⓒ FIRST subtract 12 from 84¢
THEN mulitply by 99¢

ⓓ FIRST add 12 and 84
THEN multiply by 99¢

ⓔ FIRST add 99¢ and 84
THEN divide by 99¢

12. Books are packed 8 to a carton. If each book costs $3.25, how much will 6 cartons cost?

ⓕ FIRST multiply 6 by 8
THEN multiply by $3.25

ⓖ FIRST multiply 6 by $3.25
THEN multiply by 2

ⓗ FIRST add 6 and 8
THEN multiply by $3.25

ⓙ FIRST add 8 and $3.25
THEN add 6

ⓚ Not Here

13. Sam bought a book for 69¢ and 2 pencils for 20¢ each. How much change should he get from a $5 bill?

ⓐ FIRST add 69¢ and 20¢
SECOND multiply by 2
THEN subtract from $5

ⓑ FIRST multiply 2 times 20¢
SECOND add 69¢ to that
THEN subtract from $5

ⓒ FIRST multiply 69¢ by 2
SECOND add 20¢
THEN add $5

ⓓ FIRST subtract 20¢ from $5
SECOND subtract 69¢ from $5
THEN multiply by 2

ⓔ Not Here

Go to the next page ▶

Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

14. Tickets to the ball game cost $2.00 for adults and $1.25 for students. Mike sold 12 adult tickets and 20 student tickets. How much money should he have?

ⓕ FIRST add $2.00 and $1.25
SECOND multiply by 12
THEN multiply by 20

ⓖ FIRST add 20 and 12
SECOND add $2.00 and $1.25
THEN multiply the money by 32

ⓗ FIRST multiply $2.00 by 12
SECOND multiply $1.25 by 20
THEN add these amounts together

ⓙ FIRST add $2.00 and $1.25
SECOND multiply $1.25 by 20
THEN add these amounts together

ⓚ Not Here

15. Tina bought 6 apples for 25¢ each. Andy bought 8 apples for 20¢ each. How much more than Tina did Andy spend?

ⓐ FIRST multiply 6 by 25¢
SECOND multiply 8 by 20¢
THEN subtract

ⓑ FIRST multiply 6 by 25¢
SECOND multiply 8 by 20¢
THEN add

ⓒ FIRST add 6 and 8
SECOND add 25¢ and 20¢
THEN multiply these amounts

ⓓ FIRST subtract 6 from 8
SECOND subtract 20¢ from 25¢
THEN add these answers

ⓔ Not Here

16. The average temperature last week was 63°. This Monday it was 59° outside, Tuesday it was 64° and Wednesday it was 63°. What was the difference between last week's average temperature and the average temperature for this Monday, Tuesday and Wednesday?

ⓕ FIRST add the temperatures for Monday, Tuesday, Wednesday
SECOND subtract 63°
THEN divide by 3

ⓖ FIRST divide 63° by 3
SECOND add the temperatures for Monday, Tuesday, Wednesday
THEN divide by 3

ⓗ FIRST add the temperatures for Monday, Tuesday and Wednesday
SECOND divide by 3
THEN subtract from 63°

ⓙ FIRST add 63° to the temperatures for Monday, Tuesday, Wednesday
SECOND divide by 4
THEN subtract 63°

ⓚ Not Here

17.

$$\begin{array}{r} 27.0123 \\ 3.2572 \\ +\ 0.006 \\ \hline \end{array}$$

ⓐ 31.2755
ⓑ 30.2745
ⓒ 30.2575
ⓓ 30.2755
ⓔ 31.2751

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Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

18. 13.5555 + 6.03 + .122

ⓕ 13.6079
ⓖ 23.6989
ⓗ 13.6290
ⓙ 19.0775
ⓚ 19.7075

19.

$$\begin{array}{r} 7.0543 \\ 5.0734 \\ \underline{+0.734} \end{array}$$

ⓐ 12.8777
ⓑ 12.7528
ⓒ 12.6617
ⓓ 13.8607
ⓔ Not Here

20. 20.4560 + 20.7890 + 2.1234

ⓕ 44.3584
ⓖ 43.3684
ⓗ 42.3694
ⓙ 42.2695
ⓚ Not Here

21. The atomic weight of certain chemical elements are as follows: Colbalt 58.9332, Helium 4.00026 and Iodine 126.9044. What is the total weight of all three elements?

ⓐ 199.8004
ⓑ 189.9444
ⓒ 198.8044
ⓓ 189.8402
ⓔ Not Here

22. Mr. Jones had a gas bill where the thermal factor was 1.0302, Mr. Brown's bill read 2.1064 and Mr. Rivera's bill read 2.0421. What was the total thermal factor for all three bills?

ⓕ 5.1104
ⓖ 5.0114
ⓗ 5.0044
ⓙ 5.1044
ⓚ Not Here

23. In a year stock reinvestment plan Mr. Adams received the following report of stock purchased with dividends. How many shares of stock were purchased altogether during the year?

1st quarter - 3.4061 shares
2nd quarter - 5.0024 shares
3rd quarter - 2.1462 shares
4th quarter - 4.0025 shares

ⓐ 14.5572
ⓑ 15.4473
ⓒ 14.5472
ⓓ 16.5572
ⓔ 15.7255

24. Mr. Colon's electric meter showed the following: 5.0725 kw hrs., 3.7250 kw hrs., and 2.0275 kw hrs. What was the total kw hrs. used.

ⓕ 11.8251
ⓖ 10.8250
ⓗ 8.70251
ⓙ 10.8050
ⓚ 8.0250

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Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

25. 75.0025 - 13.0573

ⓐ 62.9452 ⓓ 61.9452
ⓑ 88.9452 ⓔ Not Here
ⓒ 60.9452

26. 50.123 - 7.1235

ⓕ 42.9995 ⓙ 42.9005
ⓖ 43.9995 ⓚ Not Here
ⓗ 47.9995

27.

$$\begin{array}{r} 22.2222 \\ \underline{-12.0875} \end{array}$$

ⓐ 10.2653 ⓓ 12.2667
ⓑ 10.2657 ⓔ Not Here
ⓒ 32.3097

28.

$$\begin{array}{r} 60.3542 \\ \underline{-27.4632} \end{array}$$

ⓕ 32.8910 ⓙ 43.8910
ⓖ 33.1110 ⓚ Not Here
ⓗ 33.8900

29. Ship A unloaded 20.087 tons of steel. If it was originally carrying 55.837 tons, how much steel remains on the ship?

ⓐ 75.844 ⓓ 75.818
ⓑ 35.030 ⓔ Not Here
ⓒ 35.750

30. Chris had a batting average of .204, Bob's average was .271. How much greater was Bob's average?

ⓕ 0.027 ⓙ 0.023
ⓖ 0.067 ⓚ Not Here
ⓗ 0.025

31. Wayne ran 12.05 miles yesterday and 12.5 miles today. How much farther did he run today?

ⓐ 4.25 ⓓ 12.55
ⓑ 24.55 ⓔ Not Here
ⓒ 24.055

32. The electrician read the meter in Sam's house as 3.002 kw hrs. The next reading was 3.0234 kw hrs. What was the difference in the readings?

ⓕ 0.0214 ⓙ 0.0254
ⓖ 6.0214 ⓚ Not Here
ⓗ 6.0254

33. What is the mode for the following numbers.

3, 7, 5, 3, 9, 8, 3

ⓐ 7 ⓓ 9
ⓑ 5 ⓔ 3
ⓒ 8

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Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

34. The players on the basketball team weigh 100 lbs., 98 lbs., 95 lbs., 105 lbs. and 98 lbs. What is the mode of their weights?

ⓕ 95 lbs.
ⓖ 105 lbs.
ⓗ 98 lbs.
ⓙ 100 lbs.
ⓚ Not Here

35. Rainfall for December averaged 4.8", January 5.2", for February 5.0", for March 4.8" and for April 4.0". What is the mode of rainfall?

ⓐ 5.2"
ⓑ 1.0"
ⓒ 3.2"
ⓓ 4.0"
ⓔ 4.8"

36. What is the mode of this set of numbers?

1, 3, 5, 7, 5, 3, 1, 3

ⓕ 7
ⓖ 5
ⓗ 1
ⓙ 3
ⓚ Not Here

37. Find the median of the given data:

9, 7, 5, 3, 1

ⓐ 9
ⓑ 1
ⓒ 5
ⓓ 25
ⓔ Not Here

38. Mary is 12 years old, Nancy is 13, Elise is 11, Angela is 14 and Carol is 10. What is the median age for the girls?

ⓕ 11
ⓖ 12
ⓗ 14
ⓙ 13
ⓚ Not Here

39. The median for the following numbers is

3, 4, 7, 9, 88

ⓐ $7\frac{1}{2}$
ⓑ 7
ⓒ 8
ⓓ 4
ⓔ Not Here

40. The median length of the following distances is

10 miles, 18 miles, 12 miles, 15 miles, 13 miles, 14 miles and 9 miles

ⓕ 13 miles
ⓖ 12 miles
ⓗ 18 miles
ⓙ 14 miles
ⓚ Not Here

41. For the set of data that follows: 8, 9, 5, 9, 7, 6, 5 the mean is _____?

ⓐ 9
ⓑ 5
ⓒ 7
ⓓ 6
ⓔ Not Here

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Test 6.07 Graphs - Word Problems - 4 Place Decimals - Statistics

42. Another name for the average of a set of numbers is

- Ⓕ mode
- Ⓖ mean
- Ⓗ median
- Ⓙ statistics
- Ⓚ Not Here

43. Temperatures last week were Monday 72°, Tuesday 75°, Wednesday 78°, Thursday 80° and Friday 85°. The median temperature was

- Ⓐ 80°
- Ⓑ 77°
- Ⓒ 78°
- Ⓓ 79°
- Ⓔ Not Here

44. Teresa ran a mile in 5.2 minutes, another mile in 4.8 minutes and a third mile in 4.7 minutes. What was her mean time?

- Ⓕ 4.9 minutes
- Ⓖ 5 minutes
- Ⓗ 4.7 minutes
- Ⓙ 3.8 minutes
- Ⓚ Not Here

STOP!

Test 6.08 Probability - Circumference - Area and Volume Experimental

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. Lunch consists of a ham, cheese or peanut butter sandwich and milk, soda, lemonade or iced tea. What is the probability your lunch will be a cheese sandwich and milk. (Assuming you have no preferences.)

ⓐ $\frac{1}{7}$
ⓑ $\frac{3}{4}$
ⓒ $\frac{7}{12}$
ⓓ $\frac{1}{12}$
ⓔ Not Here

2. John has a math text and notebook, English text and notebook, Social Studies text and notebook in his locker. If he takes out a text and notebook without looking, what is the probability it will be a matching pair?

ⓕ $\frac{3}{9}$
ⓖ $\frac{1}{9}$
ⓗ $\frac{3}{3}$
ⓙ $\frac{3}{6}$
ⓚ Not Here

3. In the following sample space, what is the probability I will pick (C,2) without looking?

(A,1) (B,1) (C,1)
(A,2) (B,2) (C,2)

ⓐ $\frac{2}{6}$
ⓑ $\frac{3}{6}$
ⓒ $\frac{1}{2}$
ⓓ $\frac{1}{12}$
ⓔ Not Here

4. A box contains red, blue and yellow marbles and red, blue and yellow cubes - one of each. If I pick one without looking, what is the probability it will be the red cube?

ⓕ $\frac{2}{3}$
ⓖ $\frac{1}{3}$
ⓗ $\frac{3}{6}$
ⓙ $\frac{2}{6}$
ⓚ $\frac{1}{6}$

5. What is the probability of tossing a head on a coin and rolling a 3 on one die? (dice)

ⓐ $\frac{1}{12}$
ⓑ $\frac{3}{12}$
ⓒ $\frac{2}{3}$
ⓓ $\frac{3}{6}$
ⓔ Not Here

6. How many items are in the sample space of making possible dancing partners with 3 boys and 3 girls?

ⓕ 6
ⓖ 3
ⓗ 12
ⓙ 9
ⓚ Not Here

7. Joan is making squares and circles for a game. She is using green, orange and black drawing paper to make one of each. What is the probability you will get the black square?

ⓐ $\frac{3}{6}$
ⓑ $\frac{1}{9}$
ⓒ $\frac{1}{5}$
ⓓ $\frac{2}{5}$
ⓔ Not Here

Go to the next page ▶

8. It is possible to go from New York to Chicago by plane, train or bus. What is the possibility a man will make the trip by plane?

ⓕ $\frac{1}{6}$
ⓖ $\frac{1}{3}$
ⓗ $\frac{2}{3}$
ⓙ $\frac{5}{6}$
ⓚ Not Here

9. What is the diameter of a circle having a radius of 3 inches?

ⓐ 9 in.
ⓑ 6 in.
ⓒ 12 in.
ⓓ $1\frac{1}{2}$ in.
ⓔ Not Here

10. What is the diameter of a record having a radius of 7 inches?

ⓕ 12 in.
ⓖ 14 in.
ⓗ 7 in.
ⓙ 21 in.
ⓚ Not Here

11. What is the diameter of a wheel having a radius of 18 inches?

ⓐ 9 in.
ⓑ 18 in.
ⓒ 36 in.
ⓓ 6 in.
ⓔ Not Here

12. A diameter is equal to

ⓕ half a radius
ⓖ a circle
ⓗ two circles
ⓙ twice the radius
ⓚ Not Here

13. The diameter of a circle equals 2 inches and the circumference equals 6.28 inches. When the diameter changes to 4 inches the circumference changes to 12.56 in. If the diameter changes to 1 inch, what will the circumference equal?

ⓐ 9.42 in.
ⓑ 3.14 in.
ⓒ 6.28 in.
ⓓ 12.56 in.
ⓔ Not Here

14. If the radius of a pipe is 1 inch, the circumference of the pipe will be 3.14 inches. The circumference of a pipe whose radius is 2 inches will be

ⓕ 3 inches
ⓖ 3.14 in.
ⓗ 9.42 in.
ⓙ 1 in.
ⓚ 6.28 in.

15. A truck wheel with a circumference of 9.42 feet will have a radius of ____ feet.

ⓐ 3 feet
ⓑ 1 foot
ⓒ 9 feet
ⓓ 2 feet
ⓔ Not Here

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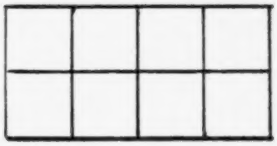
16. A circumference is how many times a diameter?

ⓕ twice
ⓖ once
ⓗ about three
ⓙ half
ⓚ Not Here

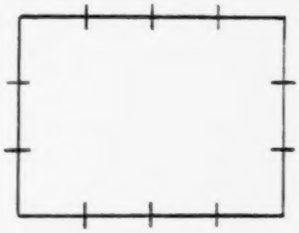
17.



The area of the figure is

ⓐ 4 squares
ⓑ 12 squares
ⓒ 2 squares
ⓓ 1 square
ⓔ 8 squares

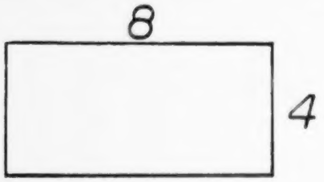
18.



The area of the figure is

ⓕ 4 sq.
ⓖ 1 sq.
ⓗ 12 sq.
ⓙ 3 sq.
ⓚ Not Here

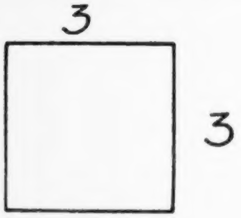
19.



The area of the figure is

ⓐ 12 sq.
ⓑ 1 sq.
ⓒ 24 sq.
ⓓ 32 sq.
ⓔ Not Here

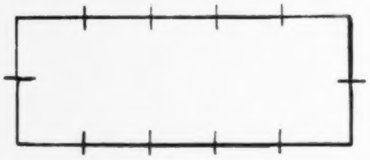
20.



The area of the figure is

ⓕ 1 sq.
ⓖ 10 sq.
ⓗ 9 sq.
ⓙ 5 sq.
ⓚ Not Here

21.

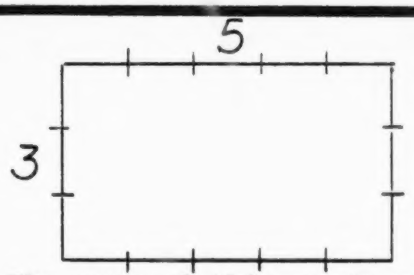


The area of this rectangle will be

ⓐ 7 sq.
ⓑ 10 sq.
ⓒ 14 sq.
ⓓ 20 sq.
ⓔ Not Here

Go to the next page ▶

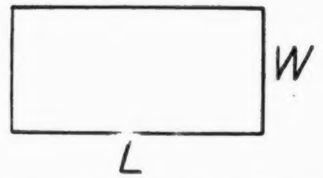
22.



The area of this rectangle is

ⓕ 8 sq.
ⓖ 13 sq.
ⓗ 11 sq.
ⓙ 15 sq.
ⓚ Not Here

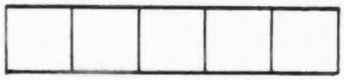
23.



The area of this rectangle is

ⓐ 6
ⓑ L + W
ⓒ L x W
ⓓ 10
ⓔ Not Here

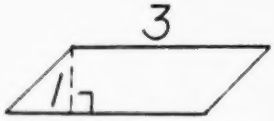
24.



The area of this rectangle is

ⓕ 12 sq.
ⓖ 5 sq.
ⓗ 4 sq.
ⓙ 1 sq.
ⓚ Not Here

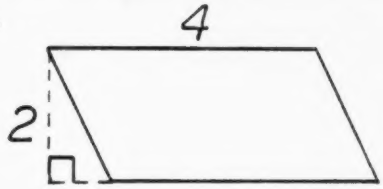
25.



The area of the parallelogram is

ⓐ 4 sq.
ⓑ 3 sq.
ⓒ 9 sq.
ⓓ 1 sq.
ⓔ Not Here

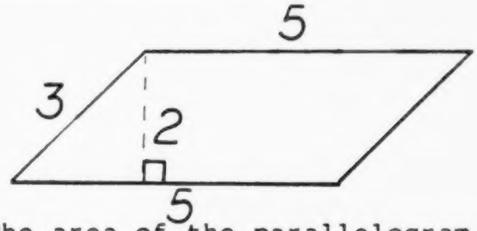
26.



The area of the parallelogram is

ⓕ 8 sq.
ⓖ 6 sq.
ⓗ 12 sq.
ⓙ 36 sq.
ⓚ Not Here

27.

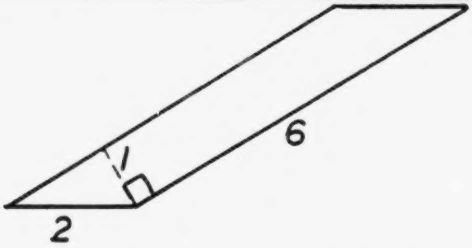


The area of the parallelogram is

ⓐ 15 sq.
ⓑ 6 sq.
ⓒ 10 sq.
ⓓ 25 sq.
ⓔ Not Here

Go to the next page ▶

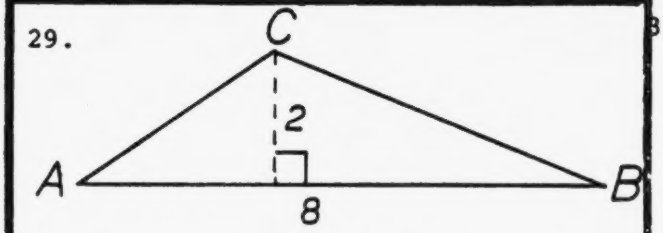
28.



The area of the parallelogram is

ⓕ 12 sq.
ⓖ 6 sq.
ⓗ 2 sq.
ⓙ 36 sq.
ⓚ Not Here

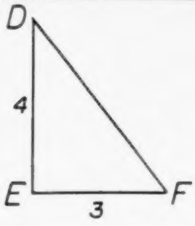
29.



The area of △ ABC is

ⓐ 4 sq. in.
ⓑ 10 sq. in.
ⓒ 16 sq. in.
ⓓ 8 sq. in.
ⓔ Not Here

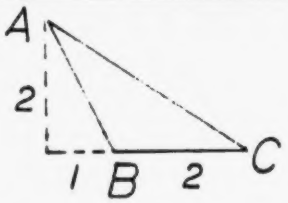
30.



The area of △ DEF is

ⓕ 6 sq.
ⓖ 5 sq.
ⓗ 9 sq.
ⓙ 4 sq.
ⓚ Not Here

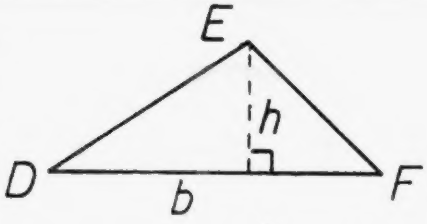
31.



The area of △ ABC is

ⓐ 5 sq.
ⓑ 4 sq.
ⓒ 2 sq.
ⓓ 6 sq.
ⓔ Not Here

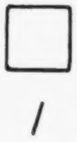
32.



The area of △DEF is

ⓕ bxh
ⓖ b+h
ⓗ $\frac{1}{2}$ + b+h
ⓙ $\frac{1}{2}$ x bxh
ⓚ Not Here

33.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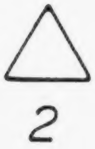
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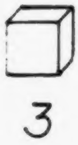
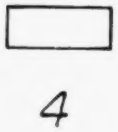

3

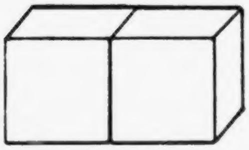

4

Which figure represents a cube?

ⓐ 1
ⓑ 2
ⓒ 3
ⓓ 4
ⓔ Not Here

Go to the next page ▶

34.



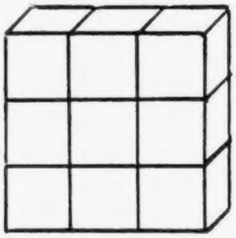
The figure shows ____ cubic inches?

ⓕ 4 ⓙ 3

ⓖ 1 ⓚ Not here

ⓗ 2

35.



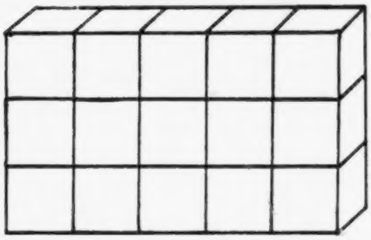
How many cubic inches are in the figure?

ⓐ 6 ⓓ 12

ⓑ 18 ⓔ Not Here

ⓒ 9

36.



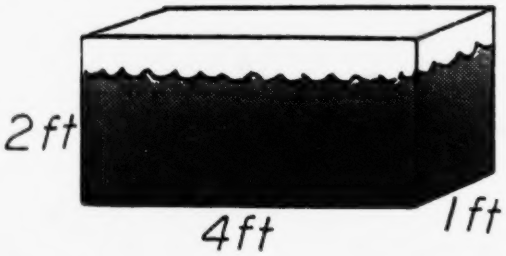
How many cubic inches of ice are in this block?

ⓕ 5 ⓙ 8

ⓖ 3 ⓚ Not Here

ⓗ 15

37.



How many cubic feet of water are in the tank?

a 6 cu. ft. d 4 cu. ft.

b 8 cu. ft. e Not Here

c 12 cu. ft.

38. Our swimming pool is 20 feet long. 10 feet wide and 6 feet deep. How much water could it hold if it were filled to the top?

f 120 cu. ft.

g 1200 cu. ft.

h 12 cu. ft.

j 36 cu. ft.

k Not Here

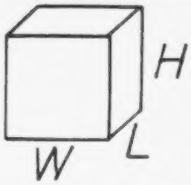
39. The cubes in the ice cube tray are 1 inch on each edge. Each ice cube is

a 3 cu. in. d 1 cu. in.

b 12 cu. in. e Not Here

c 4 cu. in.

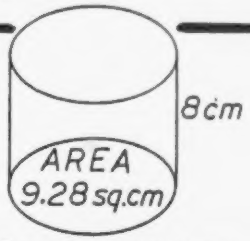
40.



The volume of this figure is

f 3 cu. ft.
g 3 cu. in.
h L x W x H
j L + W + H
k Not Here

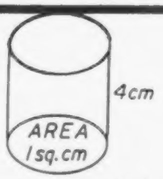
41.



The circular bottom of a juice can has an area of 9.28 sq. cm. If the can is 8 centimeters tall, how much juice can it hold?

a 17.28 cu. cm
b 9.36 cu. cm
c 74.24 cu. cm
d 10.08 cu. cm
e Not Here

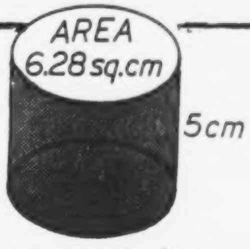
42.



The volume of this cylinder is

f 10 cu. cm
g 1 cu. cm
h 5 cu. cm
j 4 cu. cm
k Not Here

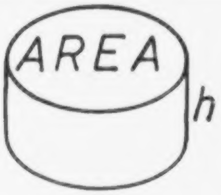
43.



This glass contains ____ cu. cm of water?

ⓐ 30 cu. cm
ⓑ 31.08 cu. cm
ⓒ 11.28 cu. cm
ⓓ 6.78 cu. cm
ⓔ Not Here

44.



The volume of this cylinder equals

ⓕ area + h
ⓖ area x h
ⓗ area - h
ⓙ area ÷ h
ⓚ Not Here

STOP!

Test 6.09

Data - Add and Subtract Large Numbers - Comparison of Integers

Experimental

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1.

Number Tickets	1	2	3	4	5
Cost	$2	$4	$6		

8 tickets will cost ____?

(a) $10
(b) $16
(c) $4
(d) $8
(e) Not Here

2. The next item in this data chart should be

10	9	8	7	6
40	38	36	34	

(f) 32
(g) 30
(h) 32
(j) 20
(k) Not Here

3. Oranges are 2 for 39¢. Use the data chart to determine how much 8 oranges should cost.

2	4	8
39¢	78¢	

(a) $1.17
(b) 78¢
(c) 39¢
(d) $1.56
(e) Not Here

4. A map shows that 2 inches represent 12 miles. How many inches will represent 36 miles?

(f) 3 in.
(g) 6 in.
(h) 12 in.
(j) 36 in.
(k) Not Here

5.

Miles	20	40	60
Gallons	1	2	3

This table shows

(a) How fast a car can go.
(b) How far a car can go.
(c) How many miles it goes on a gallon.
(d) How long it takes to go 20 miles.
(e) Not Here

6.

Number of Dozens	3	6	9
Cost	$2.70	$5.40	$8.10

This table can be used to determine

(f) the cost of 12 dozen
(g) the maximum price
(h) the minimum price
(j) how many I bought
(k) how much I paid

Go to the next page ▶

Data - Add and Subtract Large Numbers - Comparison of Integers

7. 6 boys bought one pencil in the bookstore for 20¢ each. To solve this problem I could make a table of data using

ⓐ The number of boys and the number of pencils.

ⓑ The number of boys and the cost of the pencils.

ⓒ The number of pencils and the cost of the pencils.

ⓓ The number of pencils and each boy.

ⓔ Not Here

8.

1	2	3	4
41	82	123	

The next number in the data table should be

ⓕ 264
ⓖ 164
ⓗ 205
ⓙ 246
ⓚ Not Here

9.

$$\begin{array}{r} 371{,}402{,}817 \\ 273{,}156 \\ +\ \ 4{,}175{,}221 \\ \hline \end{array}$$

ⓐ 371,749,084
ⓑ 375,848,194
ⓒ 374,848,194
ⓓ 375,740,184
ⓔ Not Here

10. Which digit belongs in the empty box?

$$\begin{array}{r} 123{,}456{,}789 \\ 11{,}121{,}314 \\ +\ \ 1{,}516{,}178 \\ \hline 136{,}\square 94{,}281 \end{array}$$

ⓕ 0
ⓖ 2
ⓗ 1
ⓙ 9
ⓚ Not Here

11. Which digits belong in the empty boxes?

$$\begin{array}{r} 749{,}000{,}627 \\ 752{,}000 \\ +\ \ 300{,}077{,}627 \\ \hline 1{,}049{,}830{,}\square\square\square \end{array}$$

ⓐ 244
ⓑ 264
ⓒ 254
ⓓ 354
ⓔ Not Here

12.

$$\begin{array}{r} 250{,}072{,}525 \\ 50{,}072{,}525 \\ +555{,}072{,}252 \\ \hline \end{array}$$

ⓕ 755,216,292
ⓖ 855,217,302
ⓗ 555,016,565
ⓙ 705,707,000
ⓚ Not Here

13. 571,623,298 rounded to the largest possible place value is

ⓐ 500,000,000
ⓑ 570,000,000
ⓒ 500,000
ⓓ 600,000,000
ⓔ Not Here

Go to the next page ▶

14. 33,987,654 to the largest possible place value is

ⓕ 33,000,000
ⓖ 31,000,000
ⓗ 34,000,000
ⓙ 30,000,000
ⓚ Not Here

15. To the largest possible place value 408,799,875 is

ⓐ 500,000,000
ⓑ 41,000,000
ⓒ 410,000,000
ⓓ 400,000,000
ⓔ Not Here

16. To the largest possible place value 730,986 is

ⓕ 700,000
ⓖ 730,000
ⓗ 700,000,000
ⓙ 731,000
ⓚ Not Here

17. The population in the following countries in 1970 was:

United States - 203,235,298
U.S.S.R. - 130,090,000
United Kingdom - 55,930,000

Approximately what was the total population of the three countries.

ⓐ 389,255,298
ⓑ 360,000,000
ⓒ 400,000,000
ⓓ 1,200,000,000
ⓔ 500,000,000

18. The United States Naval Budget for the years 1973, 1974 and 1975 were as follows. $25,425,000,000, $26,800,000,000 and $28,100,000,000. Approximately what was the total budget for the three years?

ⓕ $800,000,000,000
ⓖ $80,000,000,000
ⓗ $60,000,000
ⓙ $450,000,000,000
ⓚ Not Here

19. In one year $3,475,000 was spent on network advertising, $2,262,000 was spent on seasonal advertising and $1,767,000 was spent on local advertising. Approximately what was the yearly advertising budget?

ⓐ $5,000,000
ⓑ $5,000,000,000
ⓒ $500,000
ⓓ $4,000,000,000
ⓔ Not Here

20. The yearly volumes on the American Stock exchange during 1972, 1973 and 1974 were 1,117,989,153 shares; 759,840,245 shares and 475,297,000 shares. Approximately how many shares were traded in those years?

ⓕ 2,300,000,000
ⓖ 400,000,000
ⓗ 3,000,000,000
ⓙ 4,200,000,000
ⓚ Not Here

Go to the next page ▶

Data - Add and Subtract Large Numbers - Comparison of Integers

21.

$$\begin{array}{r} 275{,}401{,}784 \\ -\ 80{,}895{,}787 \\ \hline \square\square\square{,}505{,}997 \end{array}$$

ⓐ 194

ⓑ 215

ⓒ 356

ⓓ 195

ⓔ Not Here

22. Find the difference between 800,700,500 and 80,070,050

ⓕ 880,575,750

ⓖ 100,200,000

ⓗ 720,630,450

ⓙ 720,770,550

ⓚ Not Here

23. 83,756,299 is how much less than 100,432,300?

ⓐ 183,188,599

ⓑ 16,676,001

ⓒ 17,324,199

ⓓ 184,188,599

ⓔ Not Here

24.

$$\begin{array}{r} 521{,}632{,}708 \\ -\ 21{,}543{,}609 \\ \hline 500{,}\square\square\square{,}099 \end{array}$$

ⓕ 175

ⓖ 189

ⓗ 089

ⓙ 89

ⓚ Not Here

25. 17,800,499 people ride the subway to work and 21,599,632 ride the bus. How many more people ride the bus?

ⓐ 38,399,022

ⓑ 4,399,267

ⓒ 3,799,133

ⓓ 39,400,031

ⓔ Not Here

26. A survey showed that 72,461,000 homes have color T.V. sets, and 25,253,000 homes have black and white T.V. sets. How many more homes have color T.V. sets?

ⓕ 47,208,000

ⓖ 470,208,000

ⓗ 97,714,000

ⓙ 40,708,000

ⓚ Not Here

27. How much less than 81,765,000 is 8,765,493?

ⓐ 88,000,493

ⓑ 72,000,493

ⓒ 72,999,507

ⓓ 88,000,507

ⓔ Not Here

28. A ships capacity is 600,000,000 lbs. If it is already carrying 7,859,000 lbs., how much more can be put on board?

ⓕ 607,859,000

ⓖ 593,859,000

ⓗ 592,141,000

ⓙ 593,141,000

ⓚ Not Here

Go to the next page ▶

Data - Add and Subtract Large Numbers - Comparison of Integers

29. The opposite of -7 is ____?

ⓐ 0
ⓑ +7
ⓒ 17
ⓓ 10
ⓔ Not Here

30. The opposite of positive 4 is ________ 4?

ⓕ twenty
ⓖ positive
ⓗ >4
ⓙ negative
ⓚ Not Here

31. One pair of opposites are

ⓐ $^{+}7$ and 3
ⓑ $^{-}3$ and $^{-}3$
ⓒ $^{+}5$ and $^{-}5$
ⓓ +4 and +4
ⓔ Not Here

32. The opposite of -n would be

ⓕ 0
ⓖ +n
ⓗ -2
ⓙ +x
ⓚ Not Here

33. $^{-}4 < {}^{+}2$ means ____

ⓐ 4 is less than 2
ⓑ $^{-}4$ is less than 2
ⓒ 2 is less than 4
ⓓ 2 is less than $^{-}4$
ⓔ Not Here

34. Which statement is correct?

ⓕ $^{-}3 < {}^{-}7$
ⓖ $^{-}3 > {}^{-}7$
ⓗ $^{-}7 > {}^{-}3$
ⓙ $^{-}3 = {}^{-}7$
ⓚ Not Here

35. Which statement is correct?

ⓐ $^{+}3 < {}^{-}5$
ⓑ $^{-}5 < {}^{-}7$
ⓒ $0 < {}^{-}3$
ⓓ $^{-}8 < 0$
ⓔ Not Here

36. Which statement is correct?

ⓕ $^{-}4 = {}^{+}4$
ⓖ $^{-}4 > {}^{+}4$
ⓗ $^{-}4 > 0$
ⓙ $^{+}4 < 0$
ⓚ Not Here

37. Which set of integers is in descending order?

ⓐ $({}^{-}5, {}^{-}4, {}^{-}3, {}^{-}2)$
ⓑ (0,1,2,3,4)
ⓒ $({}^{-}7, {}^{+}7, {}^{-}5, {}^{+}5)$
ⓓ (6,5,4,3,2)
ⓔ Not Here

Go to the next page ▶

Test 6.09

Data - Add and Subtract Large Numbers - Comparison of Integers

Experimental

38. Which set of integers is in ascending order?

ⓕ ($^{-}5$,$^{-}4$,$^{-}3$,$^{-}2$)
ⓖ (0,$^{-}1$,$^{-}2$,$^{-}3$)
ⓗ (2,1,0,$^{-}1$,$^{-}2$)
ⓙ (3,$^{-}3.2$,$^{-}2$)
ⓚ Not Here

39. Which group of integers is in descending order?

ⓐ (2,1,0,$^{-}1$,$^{-}2$)
ⓑ ($^{-}8$,$^{-}7$,$^{-}6$,$^{-}5$)
ⓒ (0,1,2,3)
ⓓ ($^{-}3$,$^{-}1$,0,1)
ⓔ Not Here

40. Which group of integers is in ascending order?

ⓕ (3,2,1,0,$^{-}1$,$^{-}2$)
ⓖ (40,30,20,10)
ⓗ (5,$^{-}4$,6,$^{-}5$,7,$^{-}6$)
ⓙ ($^{-}3$,$^{-2}2$,$^{-}1$,0,$^{+}1$,$^{+}2$)
ⓚ Not Here

41. If a team gains 5 yards and then loses 5 yards on a football field they will?

ⓐ score a touchdown
ⓑ be back where they started
ⓒ move 10 yards ahead
ⓓ lose 10 yards
ⓔ Not Here

42. Monday the temperature was $^{-}3$°, Tuesday it was $^{-}1$°. Which day was colder?

ⓕ Tuesday
ⓖ Monday
ⓗ they were the same
ⓙ we cannot tell
ⓚ it was 0° outside

43. The lowest temperature recorded in Atlanta last year was -1°C. The highest temperature was 37° above that. What was the highest temperature?

ⓐ $^{+}38$°C
ⓑ $^{+}37$°C
ⓒ $^{+}36$°C
ⓓ $^{+}35$°C
ⓔ Not here

44. At the end of a game Don's score was $^{+}5$, Joe's was $^{-}2$, Ben's was $^{+}1$ and Tony's was $^{-}7$. Their scores in ascending order were?

ⓕ ($^{-}1$,$^{-}2$,$^{-}5$,$^{-}7$)
ⓖ ($^{-}7$,$^{-}5$,$^{-}2$,$^{-}1$)
ⓗ ($^{-}7$,$^{-}2$,$^{+}1$,$^{+}5$)
ⓙ ($^{+}5$,$^{+}1$,$^{-}2$,$^{-}7$)
ⓚ Not Here

STOP!

Experimental

Test 6.10 Multiplying - Dividing - Triangles - Ratios

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. $$\begin{array}{r} 3572 \\ \underline{\times 4136} \\ \underline{21432} \end{array}$$

The next line of the partial product will be

ⓐ 9076
ⓑ 10716
ⓒ 3572
ⓓ 14288
ⓔ Not Here

2. $$\begin{array}{r} 3547 \\ \underline{\times 6025} \\ \underline{17735} \end{array}$$

The next line of the partial product begins under the

ⓕ 7
ⓖ 5
ⓗ 3
ⓙ 1
ⓚ Not Here

3. $$\begin{array}{r} 7623 \\ \underline{\times 5403} \\ \underline{22869} \end{array}$$

The next line of the partial product begins under the

ⓐ 8
ⓑ 9
ⓒ 2
ⓓ 0
ⓔ Not Here

4. $$\begin{array}{r} 7605 \\ \underline{\times 3462} \end{array}$$

The first line of the partial product is

ⓕ 14200
ⓖ 15220
ⓗ 15210
ⓙ 15200
ⓚ Not Here

5. The store inventory listed 2,451 boxes of jelly beans, each box containing 1,175 jelly beans. How many jelly beans are there in all?

ⓐ 2,879,925
ⓑ 2,779,825
ⓒ 428,925
ⓓ 4,289,250
ⓔ Not Here

6. Balloons come packaged 475 to a box. How many balloons will be in 1000 boxes?

ⓕ 475
ⓖ 47,500
ⓗ 4,750
ⓙ 475,000
ⓚ Not Here

7. A secretary can type 3,600 words in an hour. How many words will she type in 300 working days of 5 hours each?

ⓐ 5,400,000
ⓑ 18,000
ⓒ 1,500
ⓓ 30,000
ⓔ Not Here

8. Find the product of 7,512 and 1,234

ⓕ 30,048
ⓖ 255,408
ⓗ 15,024
ⓙ 90,144
ⓚ Not Here

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9. $15\overline{)3045}$

ⓐ 23
ⓑ 22r15
ⓒ 203
ⓓ 2003
ⓔ Not Here

10. $300\overline{)6010}$

ⓕ 20
ⓖ 20r10
ⓗ 200
ⓙ 200r10
ⓚ Not Here

11. $120\overline{)26400}$

ⓐ 202
ⓑ 22
ⓒ 220
ⓓ 222
ⓔ Not Here

12. $250\overline{)2625}$

ⓕ 105
ⓖ 10r125
ⓗ 101r25
ⓙ 101
ⓚ Not Here

13. $1075\overline{)2500}$

ⓐ 200
ⓑ 2r350
ⓒ 20r35
ⓓ 200r35
ⓔ Not Here

14. $4321\overline{)8647}$

ⓕ 6
ⓖ 2
ⓗ 5
ⓙ 7
ⓚ Not Here

15. $1003\overline{)5010}$

ⓐ 3
ⓑ 3r5
ⓒ 5r3
ⓓ 505
ⓔ Not Here

16. 10,172 ÷ 2,543

ⓕ 4
ⓖ 5
ⓗ 25
ⓙ 4r172
ⓚ Not Here

17. How many years are there in 1,825 days? (Use one year equals 365 days.)

ⓐ 3
ⓑ 9
ⓒ 6
ⓓ 5
ⓔ Not Here

18. The hens at Apple Farm laid 4,836 eggs last week. How many dozen eggs was that?

ⓕ 430
ⓖ 400r3
ⓗ 43
ⓙ 403
ⓚ Not here

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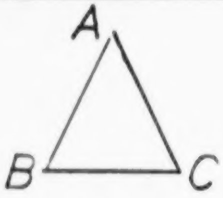
19. Find the remainder when 10,573 is divided by 3,521.

ⓐ 3
ⓑ 10
ⓒ 30
ⓓ 100
ⓔ Not Here

20. Find the quotient when 7,507 is divided by 125.

ⓕ 67
ⓖ 7
ⓗ 6
ⓙ 6r7
ⓚ Not Here

21.



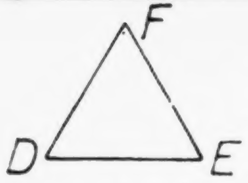
In △ ABC, $\overline{AB}=\overline{AC}$. Therefore, △ ABC is

ⓐ equilateral
ⓑ a right ◺
ⓒ isosceles
ⓓ scalene
ⓔ Not Here

22. A triangle with no equal sides is

ⓕ equilateral
ⓖ a right ◺
ⓗ isosceles
ⓙ scalene
ⓚ Not Here

23.



In △ DEF, $\overline{DE} = \overline{FE} = \overline{FD}$, therefore △ DEF is

ⓐ equilateral
ⓑ a right △
ⓒ isosceles
ⓓ scalene
ⓔ Not Here

24. If two sides of a triangle are known to be equal, the triangle might be equilateral if

ⓕ its third side is longer than the other two

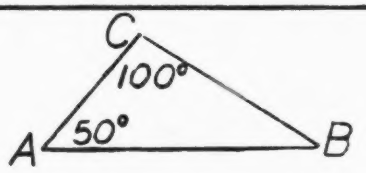
ⓖ the third side equals the other two sides

ⓗ the third side is shorter than the other two

ⓙ it's standing on the longest side

ⓚ Not Here

25.



In ABC, ∡ A = 50°
∡ C = 100°

Find ∡ B

ⓐ 60°
ⓑ 30°
ⓒ 50°
ⓓ 100°
ⓔ Not Here

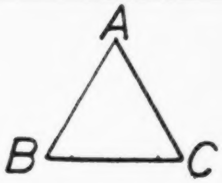
Go to the next page ▶

26.

In △DEF, ∡ F = 40°. How many degrees are in ∡ D, if ∡ D = ∡ E?

ⓕ 70°
ⓖ 40°
ⓗ 140°
ⓙ 60°
ⓚ Not Here

27.



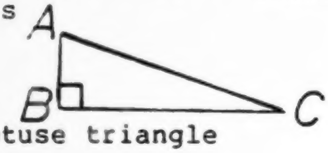
In △ABC, all three angles are equal. How many degrees are in ∡ C?

ⓐ 180°
ⓑ 50°
ⓒ 100°
ⓓ 60°
ⓔ Not Here

28. The sum of the angles in every triangle is equal to

ⓕ a right angle
ⓖ a straight angle
ⓗ an acute angle
ⓙ an obtuse angle
ⓚ Not Here

29. In △ABC, ∡ B = 90°. Therefore, △ABC is

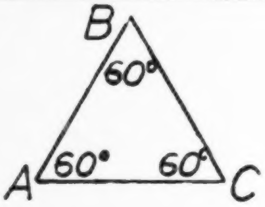


ⓐ an obtuse triangle
ⓑ an acute triangle
ⓒ an isosceles triangle
ⓓ a right triangle
ⓔ Not Here

30. In triangle DEF, ∡ D = 120°. Therefore, triangle DEF is

ⓕ an isosceles triangle
ⓖ an obtuse triangle
ⓗ an acute triangle
ⓙ a right triangle
ⓚ Not Here

31.



Triangle ABC is

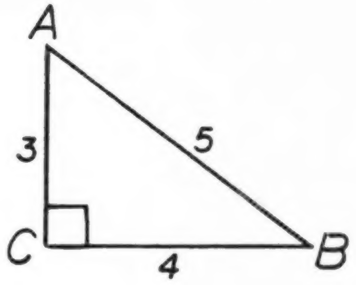
ⓐ a right triangle
ⓑ an obtuse triangle
ⓒ an acute triangle
ⓓ a scalene triangle
ⓔ Not Here

Go to the next page ▶

32. A triangle with one 90° angle is

ⓕ an acute triangle
ⓖ an equilateral triangle
ⓗ an obtuse triangle
ⓙ a right triangle
ⓚ Not Here

33.



The ratio for side $\overline{AC}$ to side $\overline{AB}$ is

ⓐ $\frac{4}{5}$
ⓑ $\frac{3}{5}$
ⓒ $\frac{5}{3}$
ⓓ $\frac{3}{4}$
ⓔ Not Here

34. There are 18 girls and 15 boys in grade 6. What is the ratio of boys to girls?

ⓕ $\frac{5}{8}$
ⓖ $\frac{18}{15}$
ⓗ $\frac{15}{18}$
ⓙ $\frac{15}{33}$
ⓚ Not Here

35. The high school baseball team won 6 games and lost 7 games last season. What is the ratio of games won to games played?

ⓐ $\frac{6}{7}$
ⓑ $\frac{6}{13}$
ⓒ $\frac{7}{6}$
ⓓ $\frac{1}{6}$
ⓔ Not Here

36. The ratio 5 to 8 can also be written

ⓕ $\frac{8}{5}$
ⓖ 8:5
ⓗ 5:8
ⓙ $\frac{5}{13}$
ⓚ Not Here

37. The next number in the statement should be

2:3 = 4:6 = 8:__

ⓐ 10
ⓑ 12
ⓒ 14
ⓓ 16
ⓔ Not Here

Go to the next page ▶

38. The missing number is

$$\frac{5}{7} = \frac{15}{?}$$

ⓕ 21
ⓖ 35
ⓗ 14
ⓙ 12
ⓚ Not Here

39. The ratio 9:10 is equivalent to

ⓐ 3:5
ⓑ 4:5
ⓒ 19:20
ⓓ 18:20
ⓔ Not Here

40. The number of sixth grade boys over five feet tall is 10 out of 20. We can write this as $\frac{10}{20}$ or

ⓕ 4 out of 5

ⓖ $\frac{5}{15}$

ⓗ 1 out of 2

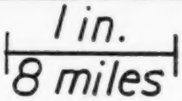
ⓙ 2:5

ⓚ Not Here

STOP!

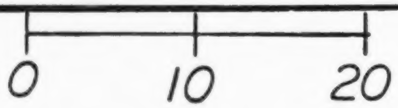
Test 6.11 Scale Drawings - Problem Models - Multiply and Divide Fractions

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. 

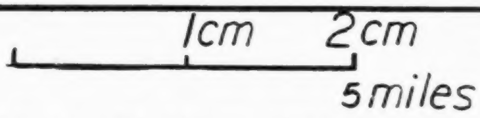
This map legend tells us that 1 inch on the map represents

ⓐ 1 mile
ⓑ 8 miles
ⓒ $\frac{1}{8}$ mile
ⓓ 8 inches
ⓔ Not Here

2. 

A possible meaning for this map legend is that

ⓕ 1 foot = 20 miles
ⓖ 2 inches = 10 miles
ⓗ 20 inches = 2 miles
ⓙ 1 inch = 10 miles
ⓚ Not Here

3. 

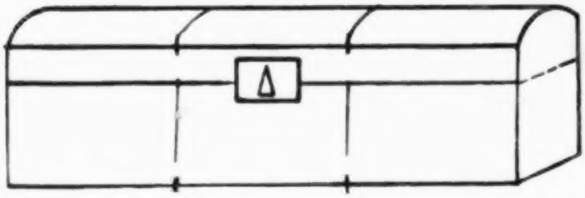
This legend shows that 5 miles are represented by

ⓐ 1 cm
ⓑ 1 in.
ⓒ 1 mi.
ⓓ 2 cm
ⓔ Not Here

4. The best way to use the legend on a map to measure the distance between two towns is with

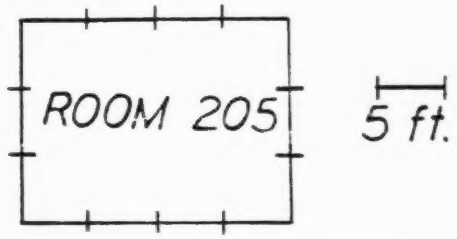
ⓕ a clock
ⓖ a ruler
ⓗ a finger
ⓙ a piece of string
ⓚ Not Here

5. Doll house funiture is always made to a scale of 1 inch = 1 foot. This doll house chest, in real life, would be how long?



ⓐ 6'
ⓑ 3'
ⓒ 1'
ⓓ 2
ⓔ Not Here

6. Room 205 is

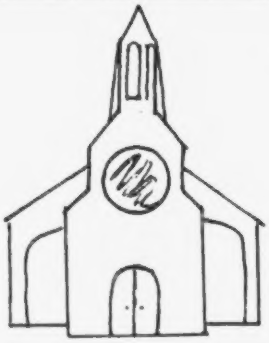


ⓕ 20'x20'
ⓖ 4'x3'
ⓗ 20'x15'
ⓙ 5'x5'
ⓚ Not Here

Go to the next page ▶

Test 6.11 **Scale Drawings - Problem Models - Multiply and Divide Fractions**

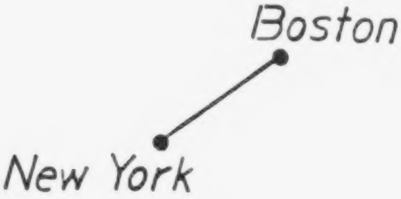
7.



The Cathedral is approximately

- ⓐ 20 ft. tall
- ⓑ 20 in. tall
- ⓒ 60 ft. tall
- ⓓ 1 in. tall
- ⓔ Not Here

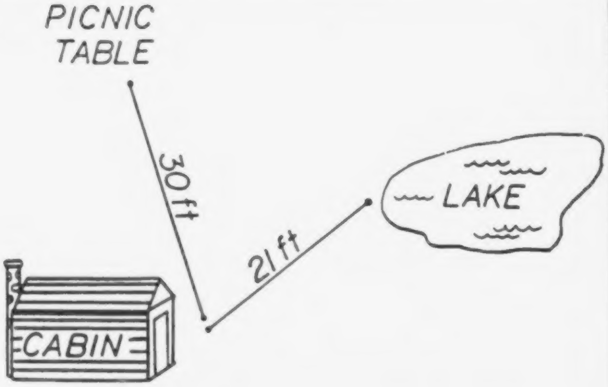
8.



The distance from New York to Boston on this map is

- ⓕ 20 miles
- ⓖ 1 inch
- ⓗ 10 miles
- ⓙ cannot tell
- ⓚ 5 miles

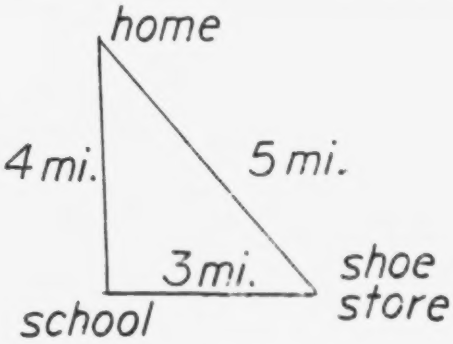
9.



If I leave the lake, go to the cabin to get my lunch, then sit at the picnic table to eat, I will have walked

- ⓐ 30 ft.
- ⓑ 21 ft.
- ⓒ a mile
- ⓓ 51 ft.
- ⓔ Not Here

10.



To go from home to school, to the shoe store and then back home, the shortest distance would be

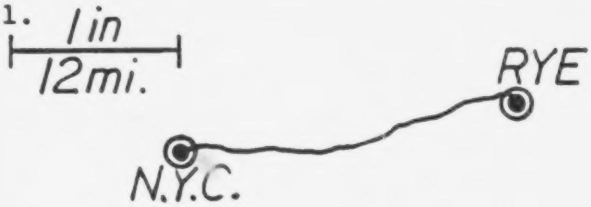
- ⓕ 7 miles
- ⓖ 8 miles
- ⓗ 9 miles
- ⓙ 12 miles
- ⓚ Not Here

Go to the next page ▶

Experimental

Test 6.11 **Scale Drawings - Problem Models - Multiply and Divide Fractions**

11.



From New York to Rye is approximately

ⓐ 2 miles

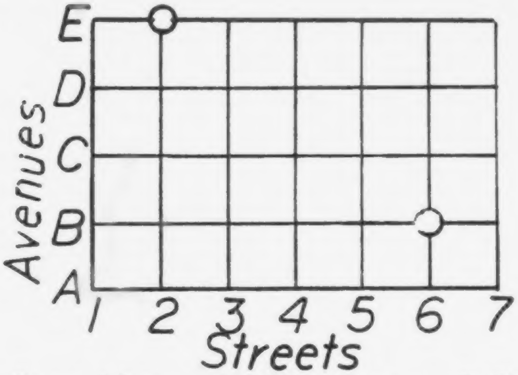
ⓑ 24 miles

ⓒ 240 miles

ⓓ 12 miles

ⓔ Not Here

12.



Jean lives at the corner of 6th Street and Avenue B. Ann lives at 2nd Street and Avenue E. To visit each other they must walk

ⓕ 4 blocks

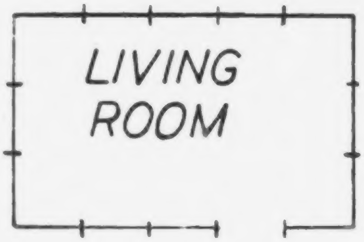
ⓖ 3 blocks

ⓗ 7 blocks

ⓙ 14 blocks

ⓚ Not Here

13.



This model could be used to

ⓐ build a house

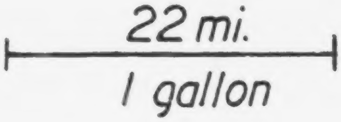
ⓑ determine how much paint is needed

ⓒ determine how much carpet is needed

ⓓ measure the windows

ⓔ Not Here

14.



This legend could be used to determine

ⓕ how many gallons are needed to go 100 miles

ⓖ how fast I drive

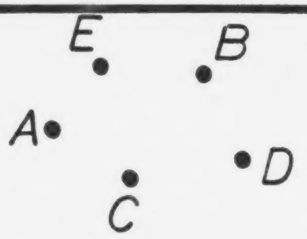
ⓗ how far I travel

ⓙ who drives the fastest

ⓚ Not Here

Go to the next page ▶

15.



This model could be used to determine

ⓐ how far it is from A to D

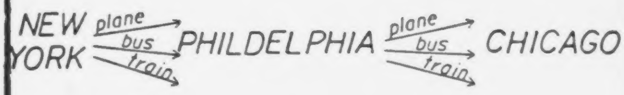
ⓑ how fast I can walk from A to D

ⓒ how many ways I can go from A to D

ⓓ how many people went from A to D

ⓔ Not Here

16.



This model could be used to determine

ⓕ how far New York is from Chicago

ⓖ how long it takes to go from New York to Chicago

ⓗ how much it costs to go from New York to Chicago

ⓙ the fastest way to get from New York to Chicago

ⓚ Not Here

17. $\frac{2}{3} \times \frac{5}{7}$ is the same as $\frac{5}{7} \times \frac{2}{3}$

ⓐ sometimes

ⓑ always

ⓒ never

ⓓ it depends on the fractions

ⓔ Not Here

18. The fact that $\frac{3}{8} \times \frac{4}{15} = \frac{4}{15} \times \frac{3}{8}$ is known as

ⓕ the additive property

ⓖ the identity element

ⓗ the commutative property

ⓙ the distributive property

ⓚ Not Here

19. $2\frac{1}{5} \times \frac{5}{7}$ is the same as

ⓐ $\frac{21}{5} \times \frac{5}{7}$

ⓑ $\frac{7}{5} \times 2\frac{1}{2}$

ⓒ $\frac{5}{7} \times \frac{21}{5}$

ⓓ $\frac{7}{5} \times \frac{1}{25}$

ⓔ Not Here

20. $\frac{3}{11} \times 5\frac{1}{3}$ is the same as

ⓕ $\frac{11}{3} \times 5\frac{3}{1}$

ⓖ $5\frac{1}{3} \times \frac{3}{11}$

ⓗ $\frac{3}{11} \times \frac{51}{3}$

ⓙ $\frac{51}{3} \times \frac{3}{11}$

ⓚ Not Here

Go to the next page ▶

Experimental

Test 6.11 Scale Drawings - Problem Models - Multiply and Divide Fractions

21. $5 \times 4\frac{1}{2}$ is the same as

ⓐ $5 \times \frac{4}{2}$
ⓑ $5 \times \frac{5}{2}$
ⓒ $(5 \times 4) + (5 \times \frac{1}{2})$
ⓓ $(5+4) \times (5+\frac{1}{2})$
ⓔ Not Here

22. $6 \times 3\frac{1}{6}$ is the same as $(6 \times 3) + (6 \times \frac{1}{6})$

ⓕ sometimes
ⓖ always
ⓗ never
ⓙ it depends on the fraction
ⓚ Not Here

23. The fact that $2\frac{1}{5} \times 7 = (2 \times 7) + (\frac{1}{5} \times 7)$ is known as

ⓐ the commutative property
ⓑ the identity element
ⓒ the distributive property
ⓓ cross multiplication
ⓔ Not Here

24. $4\frac{7}{8} \times 10$ is the same as

ⓕ $(4+\frac{7}{8}) \times (4+10)$
ⓖ $\frac{47}{8} \times 10$
ⓗ $\frac{7}{48} \times 10$
ⓙ $(4 \times 10) + (\frac{7}{8} \times 10)$
ⓚ Not Here

25. Angela made eight sandwiches and cut them all into thirds. How many pieces does she have?

ⓐ 16
ⓑ 24
ⓒ 8
ⓓ 40
ⓔ Not Here

26. Sam works $5\frac{1}{2}$ hours a day. He gets paid \$6 an hour. How much does he earn each day?

ⓕ \$30.50
ⓖ \$30
ⓗ \$31
ⓙ \$31.50
ⓚ Not Here

27. Tom's dad drives a school bus $3\frac{1}{4}$ hours a day. How many hours does he drive in a week? (5 school days)

ⓐ $16\frac{1}{4}$ hrs.
ⓑ $15\frac{1}{4}$ hrs.
ⓒ 20 hrs.
ⓓ $4\frac{5}{4}$ hrs.
ⓔ Not Here

28. A recipe calls for 4 cups of flour. To make half of the recipe I will need

ⓕ 8 cups
ⓖ $\frac{1}{2}$ cups
ⓗ 2 cups
ⓙ $1\frac{1}{2}$ cups
ⓚ Not Here

Go to the next page ▶

Test 6.11 Scale Drawings - Problem Models - Multiply and Divide Fractions

29. $\frac{3}{8} \div \frac{1}{4} = \square$

ⓐ $1\frac{1}{2}$ ⓓ $\frac{24}{3}$

ⓑ $\frac{3}{24}$ ⓔ Not Here

ⓒ $\frac{12}{n}$

30. $\frac{5}{9} \div \frac{2}{3} = \square$

ⓕ $\frac{5}{6}$ ⓙ $1\frac{1}{6}$

ⓖ $\frac{10}{27}$ ⓚ Not Here

ⓗ $\frac{15}{18}$

31. $\frac{7}{10} \div \frac{2}{3} = \square$

ⓐ $\frac{20}{21}$ ⓓ $\frac{30}{14}$

ⓑ $\frac{21}{20}$ ⓔ Not Here

ⓒ $\frac{14}{30}$

32. $\frac{12}{7} \div \frac{4}{7} = \square$

ⓕ $\frac{48}{49}$ ⓙ $\frac{3}{7}$

ⓖ 3 ⓚ Not Here

ⓗ $\frac{49}{48}$

33. $1\frac{3}{5} \div \frac{7}{10} = \square$

ⓐ $1\frac{21}{50}$ ⓓ $2\frac{2}{7}$

ⓑ $1\frac{6}{5}$ ⓔ Not Here

ⓒ $2\frac{7}{10}$

34. $3\frac{1}{7} \div \frac{11}{12} = \square$

ⓕ $\frac{7}{24}$ ⓙ $\frac{24}{7}$

ⓖ $3\frac{11}{12}$ ⓚ Not Here

ⓗ $3\frac{7}{11}$

35. $4\frac{2}{3} \div \frac{3}{5} = \square$

ⓐ $7\frac{7}{9}$ ⓓ $7\frac{3}{5}$

ⓑ $4\frac{6}{15}$ ⓔ Not Here

ⓒ $4\frac{5}{8}$

36. $4\frac{2}{7} \div \frac{1}{2} = \square$

ⓕ $4\frac{1}{7}$ ⓙ 15

ⓖ 7 ⓚ Not Here

ⓗ $\frac{60}{7}$

37. $2\frac{1}{3} \div 3\frac{1}{4} = \square$

ⓐ $\frac{2}{3}$ ⓓ $\frac{7}{13}$

ⓑ $\frac{6}{12}$ ⓔ Not Here

ⓒ $\frac{28}{39}$

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Experimental

Test 6.11 Scale Drawings - Problem Models - Multiply and Divide Fractions

38. $5\frac{1}{2} \div 1\frac{3}{4} = \boxed{}$

ⓕ $4\frac{3}{8}$
ⓖ $3\frac{1}{7}$
ⓗ $5\frac{2}{3}$
ⓙ $5\frac{3}{8}$
ⓚ Not Here

39. $2\frac{1}{2} \div 4\frac{1}{4} = \boxed{}$

ⓐ $\frac{10}{17}$
ⓑ $10\frac{5}{8}$
ⓒ $\frac{8}{85}$
ⓓ $1\frac{7}{10}$
ⓔ Not Here

40. $3\frac{2}{3} \div 1\frac{1}{3} = \boxed{}$

ⓕ $\frac{4}{11}$
ⓖ $3\frac{2}{4}$
ⓗ $3\frac{2}{9}$
ⓙ $2\frac{1}{6}$
ⓚ Not Here

41. A carpenter has a shelf board that is $8\frac{1}{2}$ ft. long. How many $2\frac{1}{4}$ foot long shelves can he make from it?

ⓐ 4
ⓑ 3
ⓒ 2
ⓓ 5
ⓔ Not Here

42. A piece of drawing paper that is $10\frac{1}{2}$ inches wide can be cut into how many $\frac{3}{4}$ inch strips?

ⓕ 30
ⓖ 40
ⓗ 14
ⓙ 75
ⓚ Not Here

43. A ribbon that is $12\frac{3}{4}$ feet long must be cut into $1\frac{1}{2}$ foot lengths. What is the maximum number of pieces that can be made?

ⓐ 12
ⓑ 24
ⓒ 10
ⓓ 8
ⓔ Not Here

44. $15\frac{1}{5}$ lbs. of candy must be packaged in bags made to contain $\frac{2}{5}$ of a pound each. How many bags can be filled?

ⓕ 125
ⓖ 30
ⓗ $75\frac{1}{2}$
ⓙ 38
ⓚ Not Here

STOP!

Test 6.12

Solid Geometric Shapes - Decimal Numbers - Permutations - Combinations

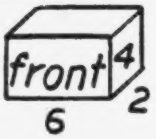
Experimental

DIRECTIONS: Read each question. Then choose the best answer. Fill in the space that has the same letter as the answer you have chosen.

1. Solid figures have how many dimensions?

ⓐ 1
ⓑ 3
ⓒ 2
ⓓ none
ⓔ Not Here

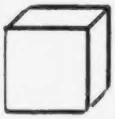
2.



The dimensions of the front of this box are?

ⓕ 2x4
ⓖ 6x4
ⓗ 2x6
ⓙ 6x2x4
ⓚ Not Here

3.



This is a 1 inch cube. Any one of its faces is a

ⓐ 4 inch square
ⓑ 1 inch square
ⓒ 4 inch cube
ⓓ 1 inch cube
ⓔ Not Here

4. A 3 dimensional figure cannot be put on paper exactly as it is because

ⓕ it's too big
ⓖ paper is too thin
ⓗ a plane has only 2 dimensions
ⓙ it will not look good
ⓚ Not Here

5. 5.83 x 100 = ☐

ⓐ 583
ⓑ .583
ⓒ 5830
ⓓ 58.3
ⓔ Not Here

6. Multiplying a decimal by 10 moves the decimal point

ⓕ to the end of the number
ⓖ to the left one place
ⓗ to the front of the number
ⓙ to the right one place
ⓚ Not Here

7. .268 x 1000 = ☐

ⓐ 2.68
ⓑ 26.8
ⓒ 2680
ⓓ 26800
ⓔ Not Here

Go to the next page ▶

Test 6.12

Solid Geometric Shapes - Decimal Numbers - Permutations - Combinations

Experimental

8. $10 \times 5.12 = \boxed{}$

- ⓕ 51.2
- ⓖ 512
- ⓗ .512
- ⓙ 5120
- ⓚ Not Here

9. $\begin{array}{r} 8 \\ \underline{\times 1.2} \end{array}$

- ⓐ .96
- ⓑ 9.6
- ⓒ 96
- ⓓ .096
- ⓔ Not Here

10. $\begin{array}{r} .53 \\ \underline{\times\ 7} \end{array}$

- ⓕ .371
- ⓖ 371
- ⓗ 37.1
- ⓙ 3.71
- ⓚ Not Here

11. $\begin{array}{r} 64 \\ \underline{\times 0.5} \end{array}$

- ⓐ 32
- ⓑ 320
- ⓒ 3.2
- ⓓ .32
- ⓔ Not Here

12. $\begin{array}{r} 1.503 \\ \underline{\times\ 4} \end{array}$

- ⓕ 6.012
- ⓖ 60.12
- ⓗ 601.2
- ⓙ 6,012
- ⓚ Not Here

13. $\begin{array}{r} 1.53 \\ \underline{\times 0.21} \end{array}$

- ⓐ 32.13
- ⓑ 321.3
- ⓒ 3.213
- ⓓ .3213
- ⓔ Not Here

14. $\begin{array}{r} 21.3 \\ \underline{\times 0.7} \end{array}$

- ⓕ .1491
- ⓖ 14.91
- ⓗ 1,491
- ⓙ 149.1
- ⓚ Not Here

15. $\begin{array}{r} .502 \\ \underline{\times 0.3} \end{array}$

- ⓐ .1506
- ⓑ 150.6
- ⓒ 1506
- ⓓ 15.06
- ⓔ Not Here

16. $\begin{array}{r} 4.04 \\ \underline{\times 0.23} \end{array}$

- ⓕ .9312
- ⓖ 93.12
- ⓗ 92.92
- ⓙ 9,292
- ⓚ Not Here

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Test 6.12

Solid Geometric Shapes - Decimal Numbers - Permutations - Combinations

Experimental

17. In order to paper one wall in the bedroom Mr. Cruz measured its length and height. He multiplied these to find the area of the wall. The length was 15.32 feet and the height was 8 feet. What was the area of the bedroom wall?

ⓐ 1225.6 sq. ft.

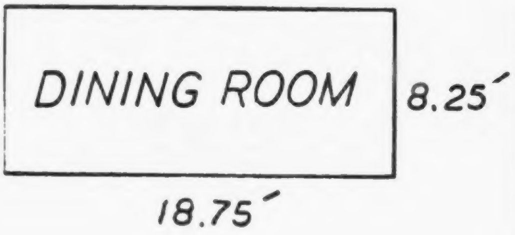
ⓑ 122.56 sq. ft.

ⓒ 1.2256 sq. ft.

ⓓ 12,256 sq. ft.

ⓔ Not Here

18.



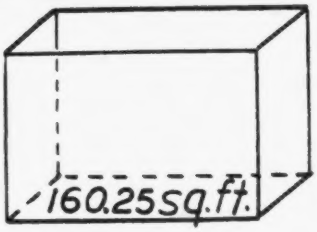
How many square feet of floor space are in this dining room?

ⓕ 154.6875 ⓙ 1,546,875

ⓖ 155.6800 ⓚ Not Here

ⓗ 15468.75

19.



This shipping container has a floor space of 160.25 sq. ft. If the container is 10 ft. tall, how many cubic feet of cargo can it hold?

ⓐ 16,025 cu. ft.

ⓑ 160.25 cu. ft.

ⓒ 16.025 cu. ft.

ⓓ 1602.5 cu. ft.

ⓔ Not Here

20. A computer chip is 0.95 cm by 0.259 cm. What is the surface area of the chip?

ⓕ 24.605 cm^2 ⓙ 246.05 cm^2

ⓖ 24605 cm^2 ⓚ Not Here

ⓗ .24605 cm^2

21.

$35\overline{)107.10}$

ⓐ 306 ⓓ .36

ⓑ 3.06 ⓔ Not Here

ⓒ 36

Go to the next page ▶

22.

$42\overline{)84.168}$

ⓕ 2.004
ⓖ 20.4
ⓗ 2.04
ⓙ 2,004
ⓚ Not Here

23.

$75\overline{).3075}$

ⓐ 41
ⓑ .41
ⓒ .0041
ⓓ 4.1
ⓔ Not Here

24.

$23\overline{).71303}$

ⓕ .310
ⓖ .031
ⓗ 31
ⓙ 3.1
ⓚ Not Here

25.

$1.8\overline{)90.36}$

ⓐ 50.2
ⓑ 502
ⓒ 5.2
ⓓ .502
ⓔ Not Here

26.

$.52\overline{).1092}$

ⓕ .21
ⓖ 2.1
ⓙ .201
ⓚ Not Here

27.

$.039\overline{)15.99}$

ⓐ 41
ⓑ 410
ⓒ .41
ⓓ 4.10
ⓔ Not Here

28. When dividing by a decimal, the position of the decimal point in the answer is determined by

ⓕ how big the answer is
ⓖ how small the answer is
ⓗ the decimal point in the divisor
ⓙ how long the numbers are
ⓚ Not Here

29. A board that is 10.8 ft. long is to be cut into 3 foot lengths. How many 3 foot boards will it make?

ⓐ no more than 3
ⓑ $3\frac{1}{2}$
ⓒ 4
ⓓ none
ⓔ Not Here

Go to the next page ▶

30. The basketball team sold 57 tickets to the game on the first day. The money for these tickets amounted to $128.25. What was the price of a ticket?

(f) $22.50
(g) $2.25
(h) $.25
(j) $2.05
(k) Not Here

31. A computer contains a 8.45 foot length of wire, to be connected to a terminal every 0.25 of a foot. How many terminals can it connect?

(a) 330
(b) 3
(c) 33
(d) 3,300
(e) Not Here

32. A piece of silicone 1.5 cm thick is to be split into slices .015 cm thick. How many slices can be made?

(f) 1000
(g) 10
(h) 100
(j) 1
(k) Not Here

33. Valerie has 3 skirts and 4 blouses. How many different outfits can she make with them?

(a) 7
(b) 12
(c) 1
(d) none
(e) Not Here

34. A salesman can go from New York to Philadelphia by plane, train or bus. He can continue on by the same three means of transportation from Philadelphia to Chicago. How many different choices does he have for traveling from New York to Chicago?

(f) 9
(g) 6
(h) 15
(j) 1
(k) Not Here

35. The boys club has seven members. How many different ways can they pick a president, vice-president and treasurer?

(a) 30
(b) 42
(c) 210
(d) 18
(e) Not Here

36. Dennis can get to school by car, bus or bike. He can go from school to the library in the car or on his bike. How many choices does he have to go from home to school and then on to the library?

(f) 3 x 2
(g) 3 x 3
(h) 3 + 2
(j) 1
(k) Not Here

Go to the next page ▶

Test 6.12 **Solid Geometric Shapes - Decimal Numbers - Permutations - Combinations**

37. Bob, Tom and Dan are to be dancing partners with Alice, Mary and Gerri. How many different combinations of couples can they make?

Ⓐ 6 Ⓓ 9
Ⓑ 1 Ⓔ Not Here
Ⓒ 12

38. Tina, Jean and Barbara are cheerleaders. The cheerleaders want to pick a committee of 2 people to plan a party after the game. How many ways can they pick a committee from the 3 girls?

ⓕ 5 ⓙ 12
ⓖ 6 ⓚ Not Here
ⓗ 1

39. How many different combinations of coins have a sum of exactly 10¢?

Ⓐ 10 Ⓓ 4
Ⓑ 20 Ⓔ Not Here
Ⓒ 1

40. How many different combinations of Head and Tails can be arranged with 3 pennies?

ⓕ 30 ⓙ none
ⓖ 0 ⓚ Not Here

STOP!

Appendix D:
Matrices and Answer Keys for Communication Arts Worksheets, Tests, and Review Tests

ANSWER KEYS FOR COMMUNICATION ARTS WORKSHEETS

Worksheet 1B

1. d
2. a
3. d
4. d
5. b

Worksheet 2

1. c
2. c
3. a
4. c

Worksheet 3A

1. a
2. d
3. c
4. a

Worksheet 3B

1. b
2. d
3. d

Worksheet 4A

1. b
2. a
3. b
4. a

Worksheet 4B

1. a
2. b
3. a
4. d
5. c

Worksheet 5A

1. b
2. b
3. c
4. b

Worksheet 5B

1. b
2. a
3. c
4. b

Worksheet 6

1. b
2. b
3. d
4. c
5. a

Worksheet 7

1. a
2. b
3. d
4. b
5. d

ANSWER KEYS FOR COMMUNICATION ARTS TESTS

Test 1

1. c
2. b
3. c
4. c
5. b

Test 2

1. d
2. b
3. d
4. c

Test 3

1. d
2. a
3. a
4. d

*5. d

Test 4

1. b
2. c
3. d
4. d
5. b
6. d

Test 5

1. b
2. d
3. a
4. c

Test 6

1. b
2. a
3. b
4. a

Test 7

1. d
2. a
3. a
4. d

Test 8

sample A. c
sample B. d
sample C. c

Synonyms	Antonyms	Multimeaning
1. b	11. b	21. a
2. c	12. c	22. c
3. c	13. c	23. b
4. c	14. d	24. a
5. b	15. c	25. b
6. c	16. a	
7. c	17. d	
8. d	18. a	
9. c	19. c	
10. c	20. d	

ANSWER KEYS FOR COMMUNICATION ARTS REVIEW TESTS

ANSWER KEY Review Test I

1.	d	detail (what)
2.	c	cause and effect
3.	b	mood/character*
4.	a	main idea
5.	d	main idea (title)
6.	b	detail (who)
7.	d	cause and effect
8.	c	detail (where)
9.	a	detail (who)
10.	c	main idea
11.	c	cause and effect
12.	a	main idea
13.	d.	detail (how)
14.	a	sequence*
15.	b	fact and opinion*
16.	a	main idea (title)
17.	a	cause and effect
18.	c	detail (who)
19.	b	detail (what)
20.	c	fact and opinion
21.	b	detail (when,

ANSWER KEY Review Test II

Part 1

1.	a	mood/character
2.	d	main idea (title)
3.	b	mood/figurative language
4.	b	figurative language
5.	d	figurative language
6.	b	figurative language
7.	a	predicting outcomes
8.	a	main idea (title)
9.	b	mood/character

Part 2

10.	b	sequence
11.	a	sequence
12.	c	predicting outcomes
13.	c	figurative language
14.	b	figurative language
15.	d	mood/character
16.	b	fact and opinion
17.	a	fact and opinion
18.	b	fact and opinion
19.	a	fact and opinion
20.	b	fact and opinion

* (See page 60 for explanation of starred items.)

Appendix E: Cloze and the DRP

THE CLOZE PROCEDURE

In 1953, Wilson Taylor introduced the cloze procedure as a means of measuring reading comprehension. In the cloze procedure, the student is given a reading passage from which words have been randomly deleted and replaced by blanks. Most frequently, it is every fifth word that is deleted. The student's task is to replace the missing words with the words the author actually used.

While the process for completing a cloze passage clearly differs from the way we normally read, the processes used to fill in the blank parallel the processes required to understand normal text without blanks. Current theories of reading suggest that comprehension is a product of the reader's own knowledge interacting with the information on the written page. Cloze taps this interaction. This appears to be the reason that cloze is a good measure of reading comprehension.

DEGREES OF READING POWER

While reading comprehension tests have traditionally used questions to measure understanding, a number of recent tests use the cloze procedure. The Degrees of Reading Power (DRP)* developed for the Reading Competency Testing Program in the State of New York, uses a modified version of the cloze procedure. As with any test, students will do their best if they understand what the test requires.

This example illustrates a portion of a DRP test passage:

> Bridges are built to allow a continuous flow of highway and railway traffic across water lying in their paths. But engineers cannot forget the fact that river traffic, too, is essential to our economy. The role of ___1___ is important. To keep these vessels moving freely, bridges are built high enough, when possible, to let them pass underneath. Sometimes, however, channels must accommodate very tall ships. It may be uneconomical to build a tall enough bridge. The ___2___ would be too high. To save money, engineers build movable bridges.

1. a) wind b) boats
c) weight d) wires
e) experience

2. a) levels b) cost
c) standards d) waves
e) deck

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Unlike cloze exercises with random deletion of words, each DRP passage has just a few carefully constructed blanks and five multiple choice options for filling in each blank. The passage has been written to draw on as little outside information as possible, so that success on DRP questions is dependant on reading and understanding the material on the test. To answer a DRP question, students need to use the context of the entire passage to narrow the possible choices, and they need to focus on the relationships between the blank and the sentences around it. For example, to complete blank 1, the student must refer to the preceding sentences, because the sentence with the blank summarizes the preceding information when the word "boats" is filled in. To complete blank 2, the student must see that the words "uneconomical" and "money" are clues that suggest cost is involved; the word "too" is the indication that it is is the cost and not the bridge that is too high.

TEACHING STRATEGIES

Success on the DRP is dependent not only on the student's reading ability, but also on the ability to answer cloze items. To do this successfully, the student must use the surrounding context--meaning and sentence structure--to pick the word that best completes the passage. Students need a general process for dealing with cloze items and specific instruction to help them develop sensitivity to the meaning and structure clues that signal the correct answer.

. Teach students the following steps for answering any DRP question:

1. Read the entire passage.
2. Fill in the missing words.
3. Reread the completed passage to make sure it makes sense.

. Use sentences such as the following to reinforce awareness of signal language. Use guided discussion to help students become alert to the subtle, but very significant, importance of signals words.

The dinosaur was large, but the dinothere was __________.

a) happy b) big c) huge

Ask:

- What is the signal word? (but)
- What does it signal? (difference, comparison) (Discuss.)
- You may not know what a dinothere is, but you do know that it is compared with a dinosaur and it is different.
- Let's examine the choices: a) happy: this is the correct word class (adjective) but the incorrect meaning (not comparable to "large"); b) big: this is the correct word class but the incorrect meaning. Although it is comparable, it is not different from "large"; c) huge: this is the correct word class and the correct meaning, because it is both comparable and different.

I ___________ while I was asleep.

a) skated b) happy c) dreamed

Ask:

- What is the signal word? (while)
- What does it signal? (more than one event happening at the same time) (Discuss.)
- The deleted word, therefore, must be an activity that can occur at the same time as you sleep.
- Let's examine the choices: a) skated: this is the correct word class (verb), but the incorrect meaning. Skating and sleeping are not reasonable simultaneous events; b) happy: this is incorrect syntactically (adjective). There is no further need to discuss it; c) dreamed: this is the correct word class and the correct meaning. Dreaming and sleeping can occur at the same time.

- Use a sentence such as the following to sensitize students to subtle words that signal meaning. For example:

The building is tall __________ an obelisk.

a) but b) red c) like

Ask:

- What kind of word is missing? (a connective)
- What kind of connection is suggested? (comparison)
- In order to complete this sentence, we need one word which will show a comparison between a building and an obelisk (even though you may not know what an obelisk is). Note that one adjective (tall) describes both the building and the obelisk.
- Let's examine the choices: a) but: it is the correct word class (connective), it suggests comparison, but it also suggests difference and only one description (tall) is given; b) red: this is the incorrect word class (adjective); c) like: this is the correct word class and the correct meaning: comparison of two objects that share one adjective.

- Signal words and phrases in DRP passages are important clues to the selection of the words that will correctly replace deletions. These words and phrases are almost impossible to define. They are learned through experience and much repetition until they are a functional part of the student's vocabulary. Remind students of the signal words they have learned throughout the lessons in this manual, and have them search for these words on practice cloze passages:

Cause-effect relationship	because; since; therefore; consequently; as a result; the effect of; on account of; one cause of; if....then; so; for this reason

Time/order sequence	first, second, all ordinal numbers; later; next; then; finally; at the beginning; now; before; after; when; yesterday; tomorrow; today; at the same time; following; preceding; during; while; days of the week; months of the year
Classification: (objects, events and ideas that share a common characteristic or connection, but not necessarily a cause-effect relationship or time/order sequence)	an example of; such as; for instance; also; one kind of; another
Comparison/Contrast	similar to; like; alike; unlike; compared to; not only _____ but; although; however; while; on the other hand; either _____ or; neither _____ nor; even; greater than; less than; in spite of

Appendix F: Test-related Vocabulary and Model Test Questions

This appendix includes lists of signal words that mark relationships among ideas, homonyms, antonyms and synonyms, multiple-meaning words, and model test questions. Use these lists as resources in planning lessons on test-taking skills.

SIGNAL WORDS

I. Signals indicating additional ideas

A. Signals pointing to coordinating ideas

- And
- Also
- Another
- In Addition
- Furthermore
- Plus
- Otherwise
- Moreover
- Besides
- Too
- After That
- Not Only But Also
- Likewise
- Similarly

B. Signals pointing to final or concluding ideas

- Consequently
- Thus
- Hence
- Therefore
- In Conclusion
- In Summation
- At Last
- Finally
- Then
- To Sum Up
- In Brief
- In the End
- For this Reason
- As You Can See
- In Short

II. Signals indicating a change in ideas

- In Contrast
- On the Contrary
- Opposed To
- Conversely
- On the Other Hand
- Nevertheless
- But
- In Spite of
- Although
- For All That
- Yet
- Still
- To The Contrary
- However
- Except

III. Signals pointing to relationships

A. Time Relationships

- In The First Place (Second, Etc.)
- Thereafter
- Finally
- In Retrospect
- Now
- Then
- To Begin With
- Next
- Last
- Later
- Before, Before That
- After, After That
- At The Same Time
- Following
- Since, Since Then
- Soon
- Formerly
- Previously
- Hereafter
- Immediately
- At Length
- At Last
- Meanwhile
- Finally

B. Space Relationships

Here
There
Yonder

Close
Far
Near

By
Away
Everywhere

Further On
Above
Beneath

To The East
Westward
Under
Across

C. Related in degree

Mere
Only

Many
More
Most

Little
Less
Least

Some
All
Almost

Best
Worst

Fewer
Fewest

Greater
Greatest

Above All

D. Pointing Signals

This
These

That
Those

One
Several

Some
Few

HOMONYMS

write-right-rite
stationery-stationary
course-coarse
flue-flu-flew
pail-pale
wait-weight
choo-chew
beat-beet
sore-soar
grown-groan
but-butt
prey-pray
ring-wring
hail-hale
horse-hoarse
hear-here
rode-road
groan-grown
real-reel
ant-aunt
main-mane-Maine
die-dye
bore-boar
course-coarse
fair-fare
pause-paws
piece-peace
lye-lie

principal-principle
pair-pare-pear
cite-sight-site
choose-chews
capital-capitol
heard-herd
sent-cent-scent
mist-missed
mail-male
thrown-throne
creak-creek
knight-night
dough-doe
red-read
would-wood
we-wee
ate-eight
sail-sale
air-heir
feet-feat
sun-son
way-weigh
do-dew-due
peel-peal
eye-I-aye
shear-sheer
soul-sole
vale-veil
stare-stair

guest-guessed
need-knead
wave-waive
close-clothes
buy-by
know-no
be-bee
blue-blew
loan-lone
dear-deer
nun-none
close-clothes
threw-throught
new-knew-gnu
great-grate
bear-bare
week-weak
not-knot
you-ewe
tear-tier
hair-hare
tow-toe
clause-claws
seem-seam
rain-reign-rein
sense-cents-scents
bough-bow
creek-creak
waist-waste

maid-made
their-there-they're
meet-meat
peer-pier
higher-hire
shone-shown
tea-tee
teem-team
seen-scene
heal-heel
nose-knows
to-two-too
see-sea
for-four-fore
pain-pane
bred-bread
shoe-shoo
one-won
steel-steal
flee-flea
heard-herd
stake-steak
lain-lane
mite-might
tale-tail
so-sew
sewn-sown
tic-tick
hour-our
hole-whole

Antonyms

thin	thick
smart	dumb
honest	dishonest
hard	soft
careful	careless
alike	different
good	bad
night	morning
remember	forget
plenty	few
poor	superior
shout	whisper
novice	expert
obey	defy
cheap	costly
learning	ignorance
angry	pleased
confess	deny
broken	whole
lawful	criminal
heedless	prudent
proud	humble
greedy	open-handed
diminish	increase
frighten	encourage
virtuous	dishonest
seldom	often
certain	doubtful
better	worse
contaminate	purify
peculiar	ordinary
unending	temporary
sick	well
large	small
glad	sad
laugh	cry
save	spend
begin	end
quick	slow
shut	open
pretty	ugly
go	come
tall	short
brave	coward

Synonyms

thin	slim
smart	intelligent
honest	truthful
hard	firm
careful	cautious
alike	same
good	nice
night	evening
remember	recall
plenty	enough
poor	inferior
shout	yell
novice	beginner
obey	heed
cheap	inexpensive
learning	knowledge
angry	furious
confess	acknowledge
broken	shattered
lawful	legal
heedless	inattentive
proud	arrogant
greedy	grasping
diminish	lessen
frighten	alarm
virtuous	honorable
seldom	infrequently
certain	sure
better	preferable
contaminate	foul
peculiar	special
unending	eternal
sick	ill
large	big
glad	happy
laugh	smile
save	keep
begin	start
quick	fast
shut	close
pretty	beautiful
go	went
tall	high
brave	courage

Multiple Meaning List

seal - 1. to close tightly
2. a sea animal

duck - 1. a flat-billed swimming bird
2. to stoop or bend quickly

bat - 1. a wooden stick or club
2. a tiny furry animal with wings
3. to blink or wink

row - 1. a line of things
2. to move by using oars
3. a quarrel

light - 1. a source of brightness
2. having little weight
3. to come to rest

bay - 1. a body of water
2. a division of a large room
3. a long deep howl

spot - 1. a mark, stain, or blot
2. a place
3. to see or find

plant - 1. a living thing that grows in soil or water
2. a factory building
3. to put seeds into the ground to grow

spring - 1. to rise or leap suddenly
2. a coil that may be squeezed and come back to its own shape
3. the season between winter and summer.

land - 1. part of the earth that is above water
2. property
3. to come to a rest on the ground

hard - 1. not soft, solid, firm
2. difficult to do
3. unfriendly or full of anger

run - 1. to move or act quickly
2. to continue or go
3. to seek votes

board - 1. a thin piece of wood
2. daily meals for which you pay
3. a group of people who direct something

letter - 1. one of the symbols in the alphabet
2. something written that is sent through the mail
3. the exact meaning

firm - 1. not soft, hard, solid
2. loyal
3. steady

report - 1. to describe an event
2. to make a charge against a person
3. statement or announcement

quarter - 1. a coin worth 25 cents
2. one fourth of an hour
3. to divide into four equal parts

arrow - 1. a slender pointed shaft or stick that is shot from a bow
2. a sign that is used to show direction

park - 1. land set aside for pleasure of the public
2. grounds around a fine house
3. to leave a thing for a time in a certain place

ugly - 1. bad to look at
2. disagreeable; unpleasant
3. threatening
4. quarrelsome; ill-natured

block - 1. a solid piece of wood, stone, or the like
2. to put things in the way of
3. the length of one side of a city square

entrance - 1. act of entering
2. place by which to enter
3. freedom or right of entering

fool - 1. a person who acts unwisely
2. to act like a fool for fun, play, joke
3. make a fool of; deceive; trick

fume - 1. vapor, gas, or smoke
2. to give off vapor, gas, or smoke
3. to let off one's rage in angry complaints

heart - 1. the part of the body that pumps the blood
2. feelings, mind
3. middle; center

TYPES OF TEST QUESTIONS

This list of test questions will assist you in developing your own tests. This list may be used in either oral or written assessment.

Recall of Facts - Details

Who won the race?
What did he give Mary?
When did the teacher arrive?
Why was Betty crying?

Sequence

What happened first? Last
What did she do first? Second
What happened at the Beginning
Middle
End

After lunch, Tom went ______________
Before dinner, Mary ______________
During school, Mr. Smart ______________

Main Idea (stated or implied)

What is this passage mainly about?
What is the best title for this story?
Which of the following titles best tells what this passage is about?

Predicting Questions

What will the teacher do as a result of the test?
What will the boy do next?
What will happen tomorrow?
Where will Judy go after the party?

Character Traits and Motives

What word best tells about the party?
How did Tom feel after having an accident?
When Kathy walked away, she seemed to be ______________.
The story gives the impression that the Civil War was ______________.
Which of the following words best describes Susan?

Fact and Opinion

Which states a fact?
Which states an opinion?

Author's Purpose

The commercial suggests that ____________________________.

Compare and Contrast

How is John different from James?
What do gravy and mashed potatoes have in common?
A was like B because both _______________________.

Drawing a Conclusion

What will the children probably do with the stray kitten?

Interpreting Poetry

Why does the author say that the night is starless?
To what does the author compare the sky?
What do lines 5 and 6 of the poem mean?
To what is a star compared in the poem?
The word "amiably" in the last line means ____________.
What idea is being described in this poem?
Who are they in line 3?
The poem describe caterpillars changing into ____________.

Appendix G: Evaluation/Feedback Form

Integrating Learning and Testing: A Handbook For Teachers, Grade 6

> Your evaluation of these lessons will help us plan future inservice presentations. Please take a moment to complete the questionaire below and return it. Your comments and your suggestions will be very much appreciated.

Does this handbook meet your students' needs?

☐ Yes ☐ No ☐ Not Sure

Explain ______________________________

____

Is the format of this handbook useful?

☐ Yes ☐ No ☐ Not Sure

Explain ______________________________

____

Did the learning activities enable the students to achieve the performance objectives?

☐ Yes ☐ No ☐ Not Sure

Explain ______________________________

____

Do you think there will will be any difficulty in implementing these objectives?

☐ Yes ☐ No ☐ Not Sure

Explain ______________________________

____

Was there a sufficient variety of activities?

☐ Yes ☐ No ☐ Not Sure

Explain ______________________________

____

Would you make changes in the types of learning activities presented in this handbook?

☐ Yes ☐ No ☐ Not Sure

Explain ______________________________

____

What additions, deletions, or changes would you recommend for each section?

I. Communication Arts

____

____

II. Mathematics

____

____

III. Mechanics

____

____

IV. Other

____

____

Any additional Comments or Suggestions:

Your name__________ School__________ District__________

RETURN TO:

Communication Arts Unit, Room 401
131 Livingston Street
Brooklyn, New York 11201

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